ASPHALT BATCH PLANT PROCESSING

Engineered For Asphalt Operations

www.tsubaki.ca

Tsubaki: The Choice For Chain

The Right Mix For Success

For over a century, Tsubaki has been developing and manufacturing the highest quality products for power transmission, material handling and motion control. Our unwavering commitment to quality and intense focus on innovation has helped us to consistently meet the evolving needs of our customers since 1917.

Today, we have more than 26 manufacturing sites globally and our products are sold in more than 70 countries. We are proud of our international presence and exceptional engineering team that have contributed to developing our industry leading products and services. As a world leader in design and manufacturing chains ranging from small pitch roller types to large engineering class chains, Tsubaki's focus is on finding solutions to application-specific problems and optimizing chain life.

With more than 100 years on this road, we have been able to understand the complexity of the Asphalt industry and apply our knowledge collected from a vast array of case studies, success stories and satisfied customers. Along with an unmatched network of field engineering and support teams, we have found the right mix to keep your operations in motion, achieve high-quality and reliable performance, and save on costs.

When it comes to Asphalt, Tsubaki is the choice for chain.

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ProService®
Product Lifecycle Support

Tsubaki's customer commitment goes beyond the quality of the product. To provide exceptional service and support, Tsubaki designated a team of field and technical experts to assist in optimizing your operations. Our Technical Solutions Team will work with you to build the ideal products for your project, optimize your requirements as they change, and proactively assist in its performance throughout the entire lifecycle. It is how we ensure that you get the maximum value out of your application.

When properly specified, installed, and maintained, a chain should never break but wear predictably, allowing for maximum productivity and ultimate reliability.

The Tsubaki Difference

ProService is a unique portfolio of product lifecycle consultative services performed by our Technical Solutions Team, who are ready to invest in a proactive approach to enhancing your operations across the country. Tsubaki's Technical Solutions Team is your partner in providing solutions to the most daunting challenges your industry faces. Discover our service packages and witness the Tsubaki difference!

BENEFITS OF PROSERVICE® PACKAGES

Improved operational reliability

Lower cost of ownership

Reliable and predictable performance

Employee development and training

Proactive partnership with the world's premier chain and sprocket manufacturer

ProService®
Product Lifecycle Support

Our Industry Leading Product Lifecycle & Field Services Packages

Performance Tracking

AUDIT SURVEY

- Wear analysis
- Product lifecycle estimation
- Cost savings analysis
- Automatic inspection and service notification
- Tsubaki Advantage* entry and ProAcTrack**

Application Optimization

SYSTEM ANALYSIS

- Analyze system throughput requirements
- Load and cycle calculations
- Optimization recommendations
- Product proposal
- Tsubaki Advantage* entry and ProAcTrack**

Installation Support

IN-FIELD CONSULTATION

- On-site Tsubaki Technical Solutions Team representative
- Scope meeting and documentation review of sign-off requirement
- Application review
- Installation and maintenance advisement
- Observation report
- Tsubaki Advantage* entry and ProAcTrack**
- Closing meeting

Maintenance Training

INSTALLATION & MAINTENANCE SEMINAR

- Tsubaki Technical Solutions Team representative-led training
- Seminar training tailored to suit your specific maintenance needs
- Application considerations
- Course material package
- Certificate of attendance

TSUBAKI LEARNING CENTER

Two-day, instructor-lead seminar:

- Chain basics
- Drive and conveyor chains
- Engineered class chains
- Sprockets and bushings
- Common chain challenges and solutions
- Power transmission units
- Conveyor-build practical exercise

Field Inspections

INITIAL SURVEY

- On-site Tsubaki Technical Solutions Team Representative
- Application log
- Technical report
- Tsubaki Advantage* entry & ProAcTrack**

IDENTIFICATION

- Product identification
- Optimization recommendations
- Product proposal

ADVANCED SELECTION

- Consultation with Tsubaki Technical Solutions Team representative
- Lifecycle estimate
- Drawing and sign-off process at order
- Application review
- Optimization report

Wear Analysis

TESTING & ANALYSIS

- Non-destructive testing
- Failure analysis
- Technical report, including component-level observations
- Third-party analysis (if required):
  - Destructive testing
  - Material composition analysis
  - Heat treatment analysis

*Tsubaki Advantage is an Application Logging, Performance Tracking, and Cost Savings system
**ProAcTrack is the automated proactive tracking of an application's lifecycle

The ProService package includes Tsubaki Advantage, which logs application information, tracks the product lifecycle, and triggers inspection and service notifications via ProAcTrack. The program calculates millions of dollars in cost savings by monitoring savings associated with product replacement, decreased maintenance, and increased uptime and productivity.

ANSI Roller Chains

ANSI Chains from Tsubaki provide the strength, reliability and durability that is required in the toughest environments. With the Tsubaki Performax™ Bushing in sizes 80-140 – single and multi-wide strands, Tsubaki ANSI chains help **reduce downtime and improve reliability while decreasing equipment repair costs**.

Why Tsubaki Chain?

Longer Wear Life

Tsubaki roller chains last up to twice as long as previously manufactured chains due to the reliability and durability of the solid bushing and patented lube groove design.

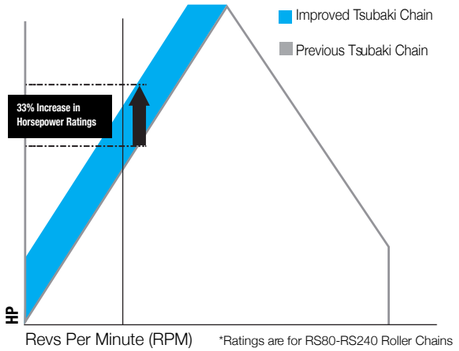
This technology covers sizes 80-140 in carbon steel chains. The solid bushings are precisely round while the grooves on the inner wall of the bushing holds lubricant where the chain needs it most. The result is a longer lasting chain.

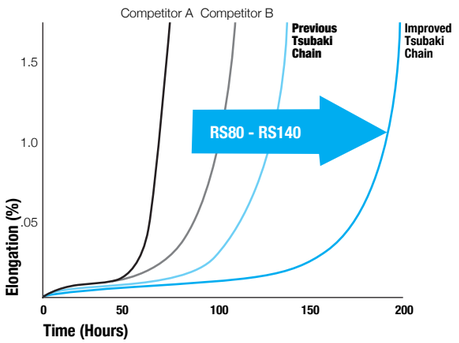
Higher Horsepower Ratings

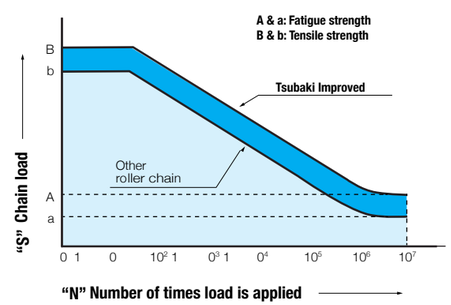
Tsubaki ANSI roller chains can handle up to 33-percent more horsepower allowing your application to increase drive performance without increasing chain size. Tsubaki chains may also allow your application to transmit the same horsepower with a smaller pitch chain. The improvement comes from a ring-coining process for slip-fit style connecting links.

Greater Fatigue Strength

Tsubaki Chains are designed to have greater fatigue strength. The wider-waist of the link plates puts more metal where it's needed most. This means less downtime, reduced operating costs, and better application efficiency. These benefits impact your application in one major way – the bottom line.





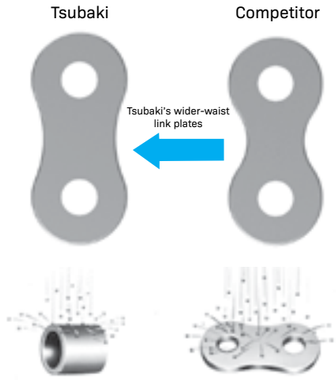


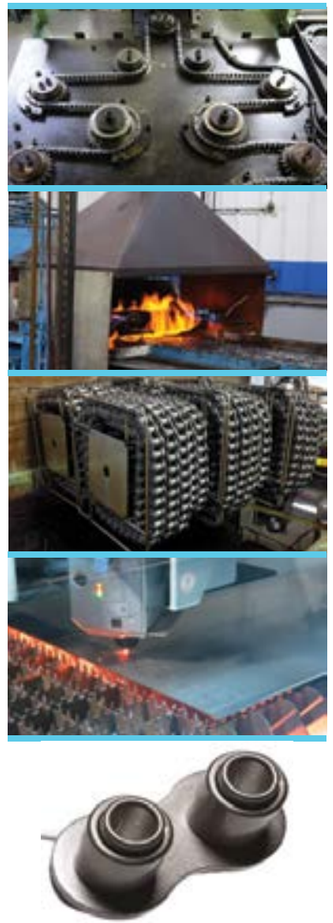
Assurance of Greater Fatigue Strength

The wider waist of the Tsubaki link plates ensures greater fatigue strength for all chain sizes and styles.

Longer Wear Life & Less Set-up time

- Tsubaki has decreased initial wear elongation to .01% and increased the life by up to 2x as long in many applications. When there isn't time to adjust and readjust a chain during installation, Tsubaki roller chains are the very best solution.
- Tsubaki uses a special pre-lubrication process that vastly increases chain wear life.
- Improved Tsubaki roller chain sizes 80-140 have the patented Performax™ solid lube groove bushings. By retaining the lube in the grooves of the bushing, it allows lubrication to stay in the key pin and bushing friction point.





Factory Preloading

Tsubaki roller chains are preloaded using a process that involves the chain under tension running through a loading table. This allows all key components to seat properly thus eliminating initial set up elongation. This process is commonly referred to as prestressing the chain.

Heat Treatment

Chain durability depends heavily on the proper heat treatment of the wear components. The use of advanced heat-treatment methods allows for Tsubaki roller chains to maintain a high level of durability.

Prelubrication

A special lubrication is applied by hot-dipping the chain in an oil bath prior to packaging. This will help to ensure that the lube penetrates the key friction wear points of the chain.

Laser-Express™ – Custom Capabilities

No specialty attachment for roller chain is too complex for Tsubaki. With our Laser-Express™ production line, even the most unique attachments are simple. No special tooling or lengthy lead times are needed. Parts can be directly created from even the most complex CAD and SolidWorks® drawings.

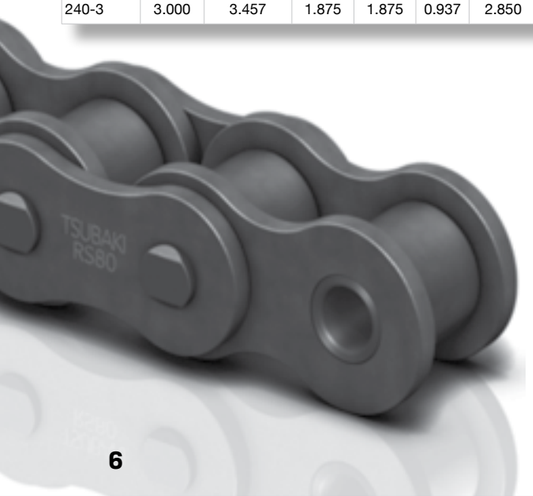
A Completely Automated Manufacturing Process

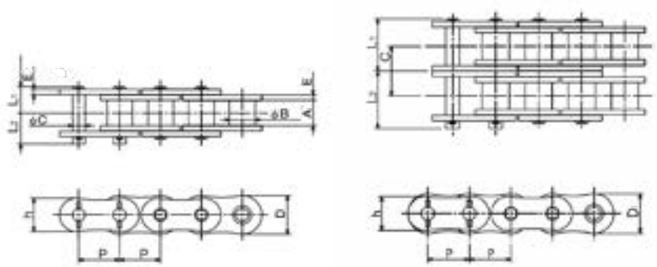
The manufacturing of Tsubaki roller chains employs advanced automated techniques. The specialized equipment used in each process ensures that all parts are uniform and of the highest quality. The adjacent image shows an assembled solid bushing placed in the roller link.

ANSI Roller Chains

Chain Number	Pitch	Transverse Pitch	DIMENSIONS									ANSI Min. Tensile Strength (lbs.)	Tsubaki Minimum Tensile Strength (lbs.)	Tsubaki Average Tensile Strength (lbs.)	Max Working Load (lbs.)	Approx. Weight (lbs./ ft.)
			Inside Width	Roller Dia.	Pin Dia.	Sidebar Height	Sidebar Thickness	Pin Head to CL (L1)	Pin End to CL (L2)	Overall Width (L1+L2)	Offset Pin Length					
			A	B	C	D	E	F	G	H	J					
SINGLE STRAND																
80	1.000	-	0.625	0.625	0.313	0.949	0.126	0.640	0.758	1.398	1.417	12,500	16,060	17,600	3,300	1.78
100	1.250	-	0.750	0.750	0.376	1.185	0.157	0.778	0.900	1.677	1.748	19,530	23,980	26,400	5,060	2.67
120	1.500	-	1.000	0.875	0.437	1.425	0.189	0.980	1.138	2.118	2.197	28,120	33,220	37,400	6,820	3.97
140	1.750	-	1.000	1.000	0.500	1.661	0.220	1.059	1.248	2.307	2.343	38,280	43,340	48,400	9,020	5.02
160	2.000	-	1.250	1.125	0.563	1.898	0.252	1.254	1.451	2.705	2.795	50,000	57,200	62,700	11,880	6.77
180	2.250	-	1.406	1.406	0.687	2.134	0.281	1.404	1.671	3.075	3.173	63,280	75,460	82,940	13,640	9.01
200	2.500	-	1.500	1.562	0.781	2.374	0.315	1.535	1.764	3.299	3.437	78,120	95,700	105,600	16,060	11.05
240	3.000	-	1.875	1.875	0.937	2.850	0.374	1.886	2.185	4.071	4.201	112,500	139,700	154,00	22,220	16.42
DOUBLE STRAND																
80-2	1.000	1.154	0.625	0.625	0.313	0.949	0.126	1.217	1.335	2.551	2.657	25,000	32,120	35,200	5,610	3.53
100-2	1.250	1.409	0.750	0.750	0.376	1.185	0.157	1.484	1.606	3.091	3.209	39,060	47,960	52,800	8,602	5.26
120-2	1.500	1.787	1.000	0.875	0.437	1.425	0.189	1.874	2.031	3.906	4.063	56,240	66,440	74,800	11,590	7.84
140-2	1.750	1.925	1.000	1.000	0.500	1.661	0.220	2.022	2.211	4.232	4.421	76,560	86,680	96,800	15,334	9.94
160-2	2.000	2.303	1.250	1.125	0.563	1.898	0.252	2.407	2.604	5.012	5.205	100,00	114,400	125,400	20,196	13.43
180-2	2.250	2.591	1.406	1.406	0.687	2.134	0.281	2.707	2.967	5.673	5.949	126,560	150,920	165,880	23,190	17.77
200-2	2.500	2.819	1.500	1.562	0.781	2.374	0.315	2.947	3.175	6.122	6.346	156,240	191,400	211,200	27,300	21.86
240-2	3.000	3.457	1.875	1.875	0.937	2.850	0.374	3.618	3.913	7.531	7.811	225,000	279.400	308,000	37,770	32.23
TRIPLE STRAND																
100-3	1.250	1.409	0.750	0.750	0.376	1.185	0.157	2.191	2.313	4.504	4.618	58,590	71,940	79,200	12,650	7.89
120-3	1.500	1.787	1.000	0.875	0.437	1.425	0.189	2.772	2.929	5.701	5.850	84,360	99,660	112,200	17,050	11.75
140-3	1.750	1.925	1.000	1.000	0.500	1.661	0.220	2.986	3.179	6.165	6.350	114,840	130,020	145,200	22,550	14.87
160-3	2.000	2.303	1.250	1.125	0.563	1.898	0.252	3.561	3.758	7.319	7.508	150,000	171,600	188,100	29,700	20.11
180-3	2.250	2.591	1.406	1.406	0.687	2.134	0.281	4.004	4.272	8.276	8.539	189,840	226,578	288,420	34,100	25.61
200-3	2.500	2.819	1.500	1.562	0.781	2.374	0.315	4.360	4.585	8.945	9.173	234,360	287,100	316,800	40,150	32.84
240-3	3.000	3.457	1.875	1.875	0.937	2.850	0.374	5.348	5.636	10.984	11.272	337,500	419,100	462,000	55,550	47.97

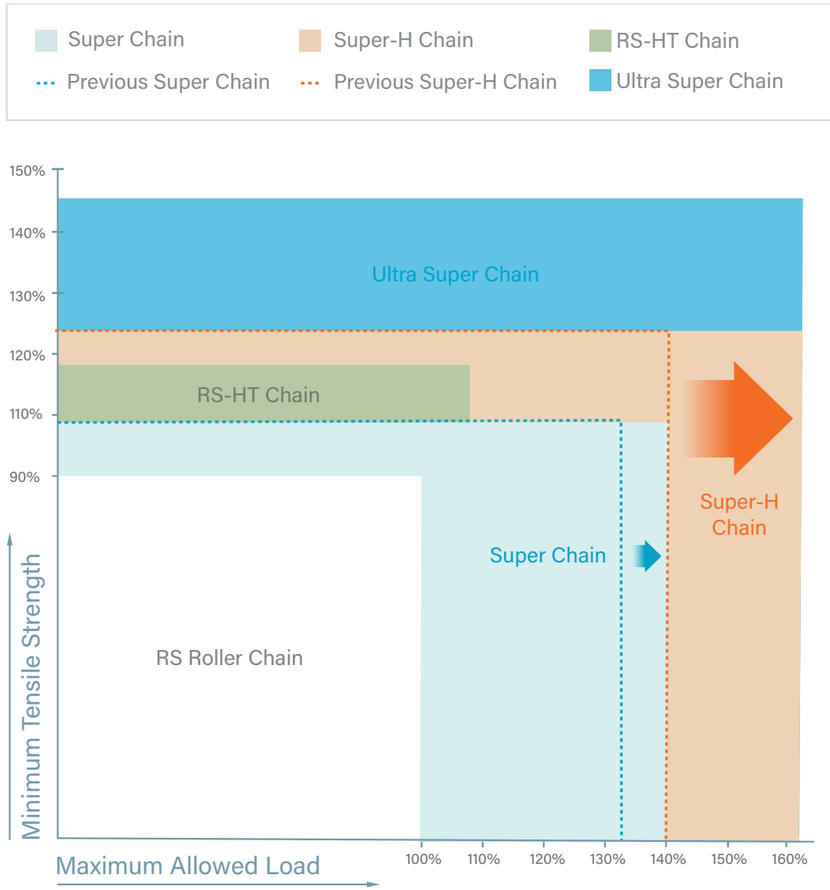
All dimensions in inches unless otherwise stated.





Heavy Duty Chains

When just a standard ANSI carbon steel roller chain won't do, Tsubaki completes its line of ANSI chains with a full line of **Heavy-Duty** series roller chains. Tsubaki offers many options to handle the most rugged and high-load applications. For common asphalt applications, we recommend **HT** series for greater ultimate tensile strength, and a full series of **Super** and **Super Heavy** offering the highest load rated chains.

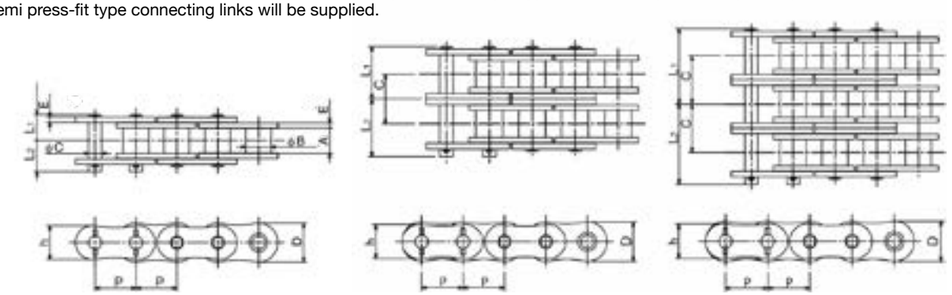


Super Series Chains

All dimensions in inches unless otherwise stated.

Chain Number	Pitch	Transverse Pitch	DIMENSIONS								Tsubaki Average Tensile Strenght (lbs.)	Max Working Load (lbs.)	Approx. Weight (lbs./ft.)
			Inside Width	Roller Dia.	Pin Dia.	Sidebar Height	Sidebar Thickness	Pin Head to CL (L1)	Pin End to CL (L2)	Overall Width (L1+L2)			
			A	B	C	D	E	F	G	H			
SINGLE STRAND													
80SUPER	1.000	-	0.625	0.625	0.313	0.949	0.126	0.640	0.758	1.398	19,140	4,180	1.9
100SUPER	1.250	-	0.750	0.750	0.376	1.185	0.157	0.778	0.900	1.677	28,600	6,820	2.9
120SUPER	1.500	-	1.000	0.875	0.437	1.425	0.189	0.980	1.138	2.118	41,800	8,800	4.2
140SUPER	1.750	-	1.000	1.000	0.500	1.661	0.220	1.059	1.248	2.307	55,000	12,100	5.4
160SUPER	2.000	-	1.250	1.125	0.563	1.898	0.252	1.254	1.451	2.705	70,400	15,840	7.2
200SUPER	2.500	-	1.500	1.562	0.781	2.374	0.315	1.535	1.764	3.299	113,300	21,120	11.8
240SUPER	3.000	-	1.875	1.875	0.937	2.850	0.374	1.886	2.185	4.071	165,000	29,700	17.2
DOUBLE STRAND													
80-2SUPER	1.000	1.154	0.625	0.625	0.313	0.949	0.126	1.217	1.335	2.551	38,280	7,106	3.8
100-2SUPER	1.250	1.409	0.750	0.750	0.376	1.185	0.157	1.484	1.606	3.091	57,200	11,594	5.6
120-2SUPER	1.500	1.787	1.000	0.875	0.437	1.425	0.189	1.874	2.031	3.906	83,600	14,990	8.3
140-2SUPER	1.750	1.925	1.000	1.000	0.500	1.661	0.220	2.022	2.211	4.232	110,000	20,570	10.7
160-2SUPER	2.000	2.303	1.250	1.125	0.563	1.898	0.252	2.407	2.604	5.012	140,800	26,928	14.4
200-2SUPER	2.500	2.819	1.500	1.562	0.781	2.374	0.315	2.947	3.175	6.122	226,600	35,904	23.4
240-2SUPER	3.000	3.457	1.875	1.875	0.937	2.850	0.374	3.618	3.913	7.531	330,000	50,490	34.0
TRIPLE STRAND													
80-3SUPER	1.000	1.154	0.625	0.625	0.313	0.949	0.126	1.795	1.909	3.705	57,420	10,450	5.6
100-3SUPER	1.250	1.409	0.750	0.750	0.376	1.185	0.157	2.191	2.313	4.504	85,800	17,050	8.4
120-3SUPER	1.500	1.787	1.000	0.875	0.437	1.425	0.189	2.772	2.929	5.701	125,400	22,000	12.5
140-3SUPER	1.750	1.925	1.000	1.000	0.500	1.661	0.220	2.986	3.179	6.165	165,000	30,250	16.0
160-3SUPER	2.000	2.303	1.250	1.125	0.563	1.898	0.252	3.561	3.758	7.319	211,200	39,600	21.5
200-3SUPER	2.500	2.819	1.500	1.562	0.781	2.374	0.315	4.360	4.585	8.945	339,900	52,800	35.1
240-3SUPER	3.000	3.457	1.875	1.875	0.937	2.850	0.374	5.348	5.636	10.984	495,000	74,250	51.0

Notes:
1. Four pitch offset link is available for single strand.
2. Riveted type chain will be provided unless otherwise specified. Roll pin type chain will be provided upon request.
3. Semi press-fit type connecting links will be supplied.

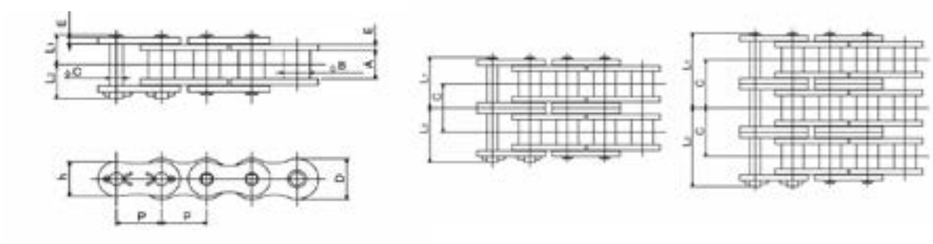


HT Series Chains

All dimensions in inches unless otherwise stated.

Chain Number	Pitch	Transverse Pitch	DIMENSIONS								Tsubaki Average Tensile Strenght (lbs.)	Max Working Load (lbs.)	Approx. Weight (lbs./ft.)
			Inside Width	Roller Dia.	Pin Dia.	Sidebar Height	Sidebar Thickness	Pin Head to CL (L1)	Pin End to CL (L2)	Overall Width (L1+L2)			
			A	B	C	D	E	F	G	H			
SINGLE STRAND													
80HT	1.000	-	0.625	0.625	0.313	0.949	0.157	0.720	0.823	1.543	20,900	3,630	2.1
100HT	1.250	-	0.750	0.750	0.376	1.185	0.189	0.858	0.965	1.823	31,900	5,500	3.1
120HT	1.500	-	1.000	0.875	0.437	1.425	0.220	1.061	1.203	2.264	42,900	7,260	4.4
140HT	1.750	-	1.000	1.000	0.500	1.661	0.252	1.138	1.303	2.441	56,100	9,570	5.5
160HT	2.000	-	1.250	1.125	0.563	1.898	0.281	1.337	1.514	2.850	71,500	12,540	7.4
200HT	2.500	-	1.500	1.562	0.781	2.374	0.374	1.689	1.894	3.583	125,400	17,600	12.3
240HT	3.000	-	1.875	1.875	0.937	2.850	0.500	2.157	2.453	4.610	198,000	25,300	19.5
DOUBLE STRAND													
80-2HT	1.000	1.283	0.625	0.625	0.313	0.949	0.157	1.362	1.465	2.827	41,800	6,100	4.1
100-2HT	1.250	1.539	0.750	0.750	0.376	1.185	0.189	1.630	1.736	3.366	63,800	9,350	6.1
120-2HT	1.500	1.925	1.000	0.875	0.437	1.425	0.220	2.024	2.165	4.189	85,800	12,340	8.6
140-2HT	1.750	2.055	1.000	1.000	0.500	1.661	0.252	2.163	2.343	4.506	112,200	16,280	11.0
160-2HT	2.000	2.437	1.250	1.125	0.563	1.898	0.281	2.555	2.740	5.295	143,000	21,310	14.6
200-2HT	2.500	3.083	1.500	1.562	0.781	2.374	0.374	3.230	3.437	6.667	250,800	29,920	24.4
240-2HT	3.000	3.984	1.875	1.875	0.937	2.850	0.500	4.146	4.445	8.591	396,000	43,010	38.4
TRIPLE STRAND													
80-3HT	1.000	1.283	0.625	0.625	0.313	0.949	0.157	2.006	2.108	4.114	62,700	9,080	6.2
100-3HT	1.250	1.539	0.750	0.750	0.376	1.185	0.189	2.402	2.504	4.906	95,700	13,750	9.1
120-3HT	1.500	1.925	1.000	0.875	0.437	1.425	0.220	2.986	3.132	6.118	128,700	18,150	13.0
140-3HT	1.750	2.055	1.000	1.000	0.500	1.661	0.252	3.195	3.356	6.551	168,300	23,930	16.4
160-3HT	2.000	2.437	1.250	1.125	0.563	1.898	0.281	3.778	3.955	7.732	214,500	31,350	21.9
200-3HT	2.500	3.083	1.500	1.562	0.781	2.374	0.374	4.774	4.982	9.756	376,200	44,000	36.7
240-3HT	3.000	3.984	1.875	1.875	0.937	2.850	0.500	6.144	6.439	12.583	594,000	63,250	57.3

Notes:
1. Riveted type chain will be provided unless otherwise specified. Cottered type chain is available upon request.
2. Semi press-fit connecting links will be supplied as standard. Slip-fit connecting links are also available upon request.

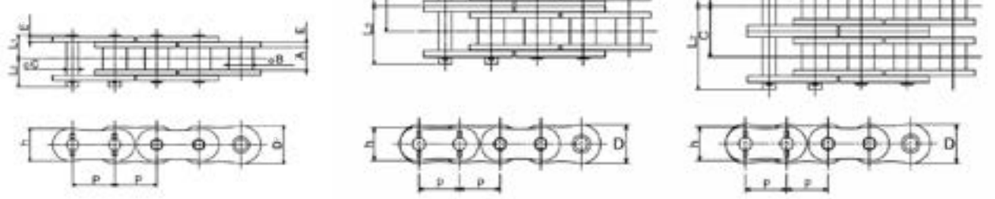


Super-H Series Chains

All dimensions in inches unless otherwise stated.

Chain Number	Pitch	Transverse Pitch	DIMENSIONS								Tsubaki Average Tensile Strenght (lbs.)	Max Working Load (lbs.)	Approx. Weight (lbs./ft.)
			Inside Width	Roller Dia.	Pin Dia.	Sidebar Height	Sidebar Thickness	Pin Head to CL (L1)	Pin End to CL (L2)	Overall Width (L1+L2)			
			A	B	C	D	E	F	G	H			
SINGLE STRAND													
80HSUPER	1.000	-	0.625	0.625	0.313	0.949	0.157	0.720	0.823	1.543	22,000	4,620	2.2
100HSUPER	1.250	-	0.750	0.750	0.376	1.185	0.189	0.858	0.965	1.823	32,560	7,260	3.3
120HSUPER	1.500	-	1.000	0.875	0.437	1.425	0.220	1.061	1.203	2.264	44,000	9,460	4.7
140HSUPER	1.750	-	1.000	1.000	0.500	1.661	0.252	1.138	1.303	2.441	57,200	12,760	6.0
160HSUPER	2.000	-	1.250	1.125	0.563	1.898	0.281	1.337	1.514	2.851	72,600	16,500	7.9
200HSUPER	2.500	-	1.500	1.500	0.781	2.374	0.374	1.689	1.894	3.583	134,200	22,400	13.2
240HSUPER	3.000	-	1.875	1.875	0.937	2.850	0.500	2.157	2.453	4.610	206,800	31,240	20.5
DOUBLE STRAND													
80-2HSUPER	1.000	1.283	0.625	0.625	0.313	0.949	0.157	1.358	1.465	2.823	44,000	7,854	4.4
100-2HSUPER	1.250	1.539	0.750	0.750	0.376	1.185	0.189	1.630	1.736	3.366	65,120	12,342	6.4
120-2HSUPER	1.500	1.925	1.000	0.875	0.437	1.425	0.220	2.014	2.165	4.179	88,000	16,082	9.1
140-2HSUPER	1.750	2.055	1.000	1.000	0.500	1.661	0.252	2.163	2.343	4.506	114,400	21,692	11.7
160-2HSUPER	2.000	2.437	1.250	1.125	0.563	1.898	0.281	2.555	2.740	5.295	145,200	28,050	15.4
200-2HSUPER	2.500	3.083	1.500	1.562	0.781	2.374	0.374	3.230	3.437	6.667	268,400	38,080	25.9
240-2HSUPER	3.000	3.984	1.875	1.875	0.937	2.850	0.500	4.146	4.445	8.591	413,600	53,108	40.2
TRIPLE STRAND													
80-3HSUPER	1.000	1.283	0.625	0.625	0.313	0.949	0.157	1.998	2.108	4.106	66,000	11,550	6.6
100-3HSUPER	1.250	1.539	0.750	0.750	0.376	1.185	0.189	2.400	2.504	4.904	97,680	18,150	9.6
120-3HSUPER	1.500	1.925	1.000	0.875	0.437	1.425	0.220	2.954	3.132	6.086	132,000	23,650	13.6
140-3HSUPER	1.750	2.055	1.000	1.000	0.500	1.661	0.252	3.191	3.356	6.547	171,600	31,900	17.4
160-3HSUPER	2.000	2.437	1.250	1.125	0.563	1.898	0.281	3.756	3.955	7.711	217,800	41,250	23.0
200-3HSUPER	2.500	3.083	1.500	1.562	0.781	2.374	0.374	4.761	4.982	9.743	402,600	56,000	38.5
240-3HSUPER	3.000	3.984	1.875	1.875	0.937	2.850	0.500	6.105	6.439	12.544	620,400	78,100	59.9

Notes:
1. Offset links are not available.
2. Riveted type chain will be provided unless otherwise specified. Roll pin type chain will be provided upon request.
3. Semi press-fit type connecting links will be supplied.

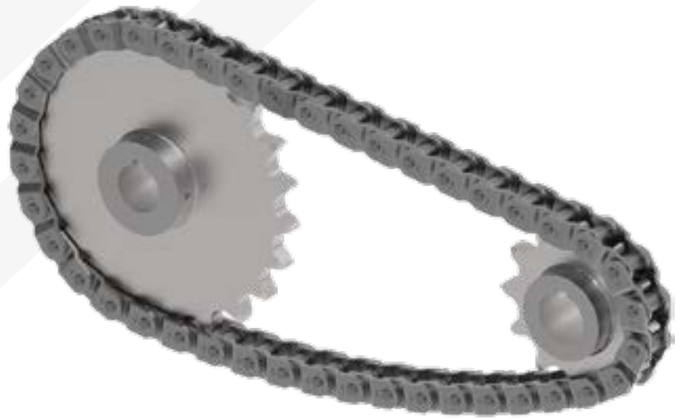


Engineering Class Drive Chains

Tsubaki is proud to offer a market leading portfolio of **Engineering Class Drive Chains**. This unique and encompassing collection of premium designs has been continuously improved and perfected over the last century. Manufactured in Sandusky, Ohio since 1917, this cornerstone product is widely recognized around the world for its superior quality and workmanship. When it comes to efficient power transfer, Tsubaki Drive Chain is second to none.

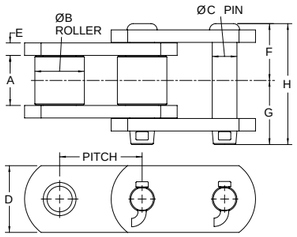
Engineering Class Chain Components	Fatigue Resistance	Heat Treated	Case Hardened	Induction Hardened	Through Hardened
Pins		✓		✓ Surface	✓ Core
Bushings	✓	✓	✓ Surface		
Sidebars	✓	✓			
Rollers		✓			✓

Premium Alloy Steel options available.

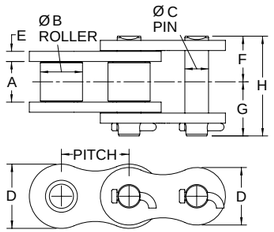


STRAIGHT SIDEBAR

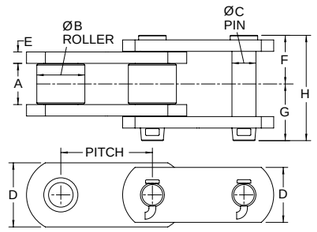
Style 1



Style 2

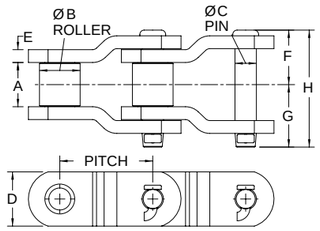


Style 3

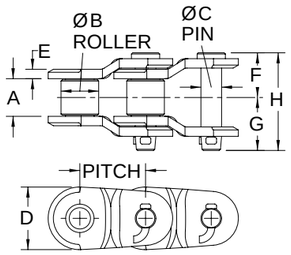


OFFSET SIDEBAR

Style 1



Style 2



Chain life is only as good as the sprocket that drives it, so maximize your operation with **Engineering Class Sprockets** from **Tsubaki**.

Check page 30 for more information

ENGINEERING CLASS DRIVE CHAINS & SPROCKETS MUST WORK TOGETHER

So buying them from the same source makes sense. When chains and sprockets articulate correctly, you get longer service life from your chain. That means long-term savings and real value for your operation.

COMMON ASPHALT DRIVE CHAIN INTERCHANGE DATA

Tsubaki Part Number	Pitch	Allied Locke	Renold/ Jeffery	Link Belt	Rexnord
US-1030	3.075	----	JS1030	RO40	1030
US-1031	3.075	MXS1031	JS1031	RO1031	R1033
US-1242	4.063	MXS1242	JS4014	LXS1242M	R1248
US-1245	4.073	MXS1245	JS1245A	RO3315	RX1245
US-2065	2.000	MXS2065	IS2065R	RO3160S	B3113
US-3011	3.067	MXS3011	JS3011	RO2512	AX1568
US-3075	3.075	MXS3075	JS3075	RO40HYPER	R1037
US-3514	3.500	MXS3514	JS3514	RO2814	RX238
US-4522	4.500	MXS4522	IS4522	RO3618	RO635
US-5031	5.000	MXS5031	JS5031	RO4020	RO1207
US-5035	5.000	MXS5035	1605AAA		RO1315
US-5042	5.000	---	---		
US-5542	5.500	MXS5542	---		RO1356
US-6042	6.000	MXS6042	JS6042	RO4824	RX1306
US-6066	6.000	MXS6066	---		
US-882	2.609	MXS882	JS882	LSX882	R588

Engineering Class Drive Chains

All dimensions in inches unless otherwise stated.

	Chain Number	Pitch	Sidebar Style[1]	DIMENSIONS										STOCKED LENGTH		Tsubaki Average Ult. Stgth. (lbs.)	Max Working Load (lbs.)	Approx. Weight (lbs./ ft.)
				Inside Width	Roller Dia.	Roller Mat.[2]	Pin Dia.	Pin Mat.[2]	Sidebar Height	Sidebar Thickness	Sidebar Mat.[2]	Pin Head to CL (L1)	Pin End to CL (L2)	Pitch	Feet			
				A	B		C		D	E		F	G					
OFFSET SIDEBAR	US-2065	2.000	1	1.270	1.130	AHT	0.590	AHTIH	1.630	0.310	AHT	1.440	1.690	60	10.000	65,000	4,000	7.6
	RO-3140	1.750	2	1.000	1.000	AHT	0.550	AHT	1.700	0.250	AHT	1.190	1.410	69	10.000	57,000	2,800	6.5
	RO-3160	2.000	1	1.250	1.130	AHT	0.540	AHT	1.940	0.250	AHT	1.310	1.530	60	10.000	67,300	3,450	6.7
	RO-3180	2.250	2	1.440	1.410	AHT	0.690	AHT	2.130	0.280	AHT	1.470	1.740	53	10.000	80,000	4,800	9.6
	RO-25H	2.500	1	1.500	1.250	AHT	0.650	AHTIH	1.630	0.380	AHT	1.710	1.960	48	10.000	87,000	4,900	9.2
	520RX	2.563	1	1.060	1.130	CHT	0.500	CHT	1.250	0.250	CHT	1.220	1.440	47	10.000	25,000	2,800	4.8
	US-882	2.609	1	1.130	0.880	AHT	0.440	AHT	1.130	0.250	CHT	1.250	1.440	46	10.000	26,000	2,500	3.6
	US-3011	3.067	1	1.560	1.630	AHT	0.750	AHTIH	2.250	0.380	AHT	1.750	2.130	39	10.000	110,000	6,100	12.0
	US-1030	3.075	1	1.500	1.250	AHT	0.630	AHTIH	1.500	0.310	HC	1.560	1.840	39	10.000	28,000	4,650	7.0
	US-1031	3.075	1	1.500	1.250	AHT	0.630	AHTIH	1.500	0.310	CHT	1.590	1.840	39	10.000	48,000	4,650	7.0
	US-3075	3.075	1	1.500	1.250	AHT	0.650	AHTIH	1.750	0.380	AHT	1.720	2.000	39	10.00	75,000	5,100	9.6
	US-3514	3.500	1	1.500	1.750	AHT	0.880	AHTIH	2.250	0.500	AHT	2.030	2.380	34	9.900	140,000	7,700	16.1
	US-1241	4.063	1	1.940	1.750	AHT	0.880	AHTIH	2.250	0.500	AHT	2.250	2.560	30	10.200	112,000	9,000	16.3
	US-1242	4.063	1	1.940	1.750	AHT	0.880	AHTIH	2.250	0.500	AHT	2.250	2.560	30	10.200	140,000	9,000	16.1
	US-1245	4.073	1	1.940	1.780	AHT	0.940	AHTIH	2.380	0.560	AHT	2.380	2.750	30	10.200	170,000	10,100	18.0
	US-4121	4.090	1	1.940	1.880	AHT	1.000	AHTIH	2.750	0.560	AHT	2.380	2.750	30	10.200	210,000	10,700	13.6
	US-4122	4.090	1	1.940	2.000	AHT	1.100	AHTIH	2.750	0.560	AHT	2.380	2.750	30	10.200	235,000	11,700	14.0
	US-4522	4.500	1	2.060	2.250	AHT	1.100	AHTIH	3.000	0.560	AHT	2.450	2.880	27	10.100	220,000	12,300	25.4
	US-5031	5.000	1	2.750	2.500	AHT	1.250	AHTIH	3.500	0.630	AHT	3.060	3.380	24	10.000	310,000	17,500	34.0
	US-5035	5.000	1	2.560	2.500	AHT	1.380	AHTIH	3.500	0.750	AHT	3.080	3.510	24	10.000	350,000	19,600	38.1
	US-5542	5.500	1	3.000	3.000	AHT	1.500	AHTIH	4.000	0.750	AHT	3.410	3.850	62	28.400	420,000	23,600	49.1
	US-5738	5.750	1	3.000	3.000	AHT	1.500	AHTIH	4.000	0.690	AHT	3.310	3.690	21	10.100	380,000	23,000	46.0
	US-6042	6.000	1	3.000	3.000	AHT	1.500	AHTIH	4.000	0.750	AHT	3.410	3.850	20	10.000	420,000	23,600	45.0
	US-6066	6.000	1	3.000	—	—	1.750	AHTIH	4.750	0.750	AHT	3.550	3.830	57	28.500	600,000	27,600	51.7
STRAIGHT	US-64S	2.500	2	1.500	1.560	AHT	0.880	AHT	2.130	0.380	AHT	1.690	2.000	48	10.000	125,000	6,900	13.1
	344SXX	3.000	1	1.940	1.780	AHT	0.940	AHTIH	2.380	0.560	AHT	2.380	2.750	40	10.000	170,000	10,050	22.0
	US-4031	4.000	1	2.750	2.500	AHT	1.250	AHTIH	3.500	0.630	AHT	2.910	3.340	30	10.000	310,000	17,500	40.0
	US-1353	4.090	3	2.190	2.630	AHT	1.310	AHTIH	3.500	0.630	AHT	2.660	3.090	30	10.200	210,000	16,000	37.6
	US-5042	5.000	1	3.000	3.000	AHT	1.500	AHTIH	4.000	0.750	AHT	3.410	3.850	24	10.000	420,000	23,600	53.0
	US-6566	6.500	1	3.190	3.500	AHT	1.750	AHTIH	6.000	0.880	AHT	3.950	4.360	36	19.500	600,000	30,600	71.1

Indicates chain is normally stocked. All others made to order.
1 - Styles on previous page. All Pin Styles above are K=Full round; Contact Tsubaki for A=Double flat.
2- 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.

Steel Bushed Chains

Tsubaki's high quality **Steel Bushed Chains** feature an extensive line-up of standard sizes, configurations and attachment types. They are specifically designed to operate in severe working conditions, particularly those with grit or abrasive particulate. Elevators moving material up to the top of the mixing tower operate are often exposed to high temperatures (up to 200°C) and may be tasked to move upwards of 400 tons of product per hour. Use of premium steels throughout and proprietary, precisely controlled heat treatments ensures Tsubaki Steel Bushed Chains are the **best performing chains in these harsh environments.**

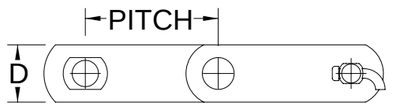
Steel Bushed Chain Components	Premium Alloy Steel	Carbon Steel	Fatigue Resistance	Heat Treated	Case Hardened	Induction Hardened	Through Hardened
Pins	✓	✓		✓	✓ Surface **(Optional)**	✓ Surface **(Optional)**	✓ Core
Bushings	✓	✓	✓	✓	✓ Surface		✓ Core
Sidebars		✓	✓				✓

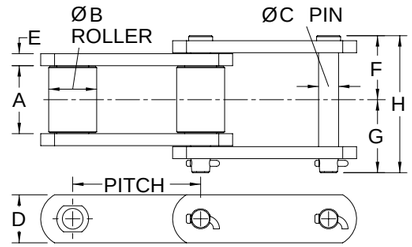
Premium Alloy or Carbon Steel options available.

Steel Bushed Chains

Chain Number	Pitch	Attachments Available	DIMENSIONS								Tsubaki Average Ult.Stgth. (lbs.)	Max Working Load (lbs.)
			Inside Width	Roller Dia.	Pin Dia.	Sidebar Height	Sidebar Thickness	Pin Head to CL	Pin End to CL	Overall Width		
			A	B	C	D	E	F	G	H		
188	2.609	A1/A2, A42, G19, K1/K2	1.060	0.880	0.500	1.130	0.250	1.220	1.440	2.660	25,000	2,750
131	3.075	A2, A42, K2	1.310	1.250	0.630	1.500	0.380	1.590	1.880	3.470	40,000	4,500
102B	4.000	A1/A2, G19, K1/K2	2.130	1.000	0.630	1.500	0.380	2.000	2.280	4.280	40,000	6,300
102-1/2	4.040	A2, K2	2.250	1.380	0.750	1.750	0.380	2.060	2.470	4.530	50,000	8,850
111	4.760	A1/A2, K1/K2	2.630	1.440	0.750	2.000	0.380	2.280	2.660	4.940	50,000	8,850
110	6.000	A2, K2	2.130	1.250	0.630	1.500	0.380	2.000	2.280	4.280	40,000	6,300
833	6.000	A24, K24	2.630	1.440	0.750	2.000	0.380	2.340	2.660	5.000	74,500	8,850
150X	6.050	A2, K2	3.310	1.750	1.000	2.500	0.500	2.940	3.370	6.310	100,000	15,100
856	6.000	K24, K3, K35	3.000	1.750	1.000	2.500	0.500	2.780	3.220	6.000	145,000	14,000
956	6.000	K24	3.000	1.750	1.000	3.000	0.500	2.780	3.220	6.000	160,000	14,000
857	6.000	K44	3.000	1.750	1.000	3.250	0.500	2.780	3.220	6.000	174,000	14,000
958	6.000	K44	3.000	1.990	1.190	3.380	0.560	2.840	3.280	6.130	206,000	17,000
859	6.000	K44	3.750	2.380	1.250	4.000	0.630	3.410	3.840	7.250	264,000	21,800
864	7.000	K443	3.750	2.380	1.250	4.000	0.630	3.410	3.840	7.250	275,000	22,000
984	7.000	K443	3.750	2.500	1.380	4.000	0.630	3.410	3.840	7.250	285,000	20,000

All dimensions in inches unless otherwise stated.





Workhorse™ Series
Power & Performance

Tsubaki Workhorse™ Series Elevator Chains are designed with a unique combination of premium alloy and carbon components to allow for reliable and predictable performance in your toughest applications.

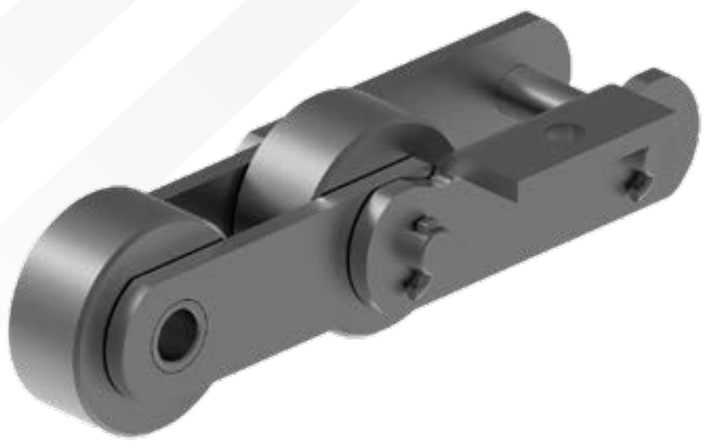
- Suitable for centrifugal, positive and gravity discharge elevators.
- 4" to 6" inch pitch size is typical, but other sizes available.
- Smaller pitch sizes allow for faster chain speeds.
- Typical operating speeds are in the 100-350FPM range.
- Steel bushed and roller types are available.

Roller Conveyor Chains

Tsubaki's Roller Conveyor Chain represents the most common and universal class of chain. Tsubaki is proud to offer a premium, well diversified portfolio designed and built in Sandusky, Ohio.

Roller Conveyor Chain Components	Premium Alloy Steel	Carbon Steel	Fatigue Resistance	Heat Treated	Case Hardened	Induction Hardened	Through Hardened
Pins	✓	✓		✓		✓ Surface	✓ Core
Bushings	✓	✓	✓	✓	✓ Surface		✓ Core
Sidebars		✓	✓	✓ (Optional)			
Rollers	✓	✓					

Premium Alloy or Carbon Steel options available.



Drag Chain Assemblies

Tsubaki proudly offers an extensive portfolio of custom, **Made-to-Order Incline and Transfer Scraper Conveyor Chain Assemblies**. They are designed to drop in to virtually any OEM piece of equipment, with base chains designed specifically for the asphalt industry. Paddles are typically high hardness, abrasion resistant plate material to ensure **long life in tough asphalt conveyor applications**. Manufactured at any of our three fabrication facilities across Canada, Tsubaki can quickly deliver chains complete with flights with little to no assembly required on-site prior to installation.

Custom Incline & Transfer Scraper Conveyor Chain Assemblies

Scraper Conveyor Quotation

Tsubaki's Drag Chain Assembly quotation process is easy!

Fill out our flight attachments form.

Check pages 56-57 for more information

Incline & Transfer Conveyor Chains

Available in **4”** or **6”** pitch with **K-style** or **slotted M-style** attachments. These chains are constructed for **maximum strength and longevity**. Sidebars are through hardened to stand up to high impact loads, and rollers are specially heat treated to resist abrasion in even the toughest operating conditions.

K Style 1

K Style 2

M Style 1

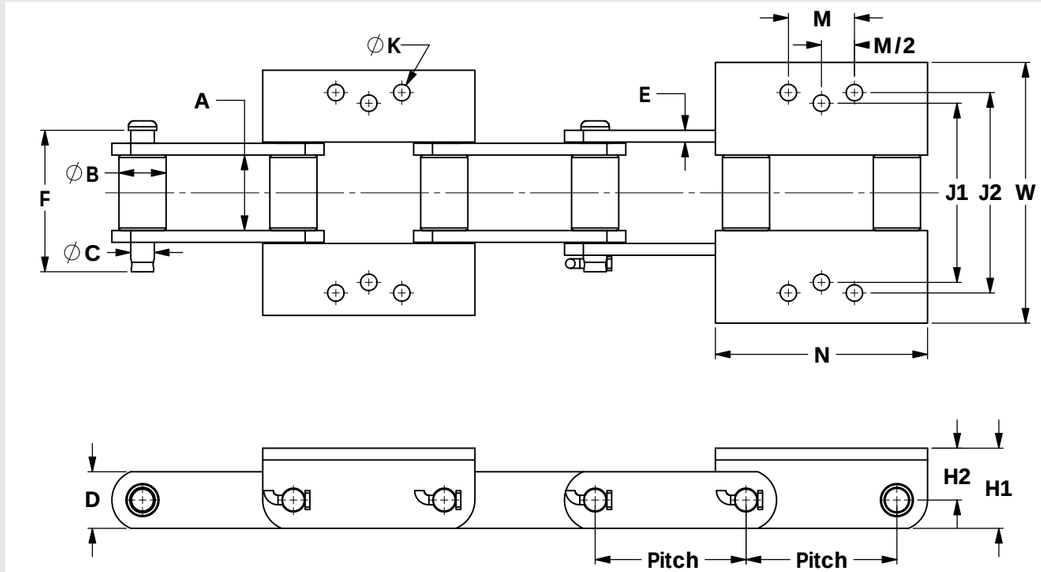
M Style 2

Incline & Transfer Conveyor Chains

P-10020 Chain

All dimensions in inches unless otherwise stated.

Chain Number	Description	Pitch	BASE CHAIN DIMENSIONS							Average Tensile Strength (lbs.)	Max Working Load (lbs.)	Approx. Weight (lbs./ft.)
			Inside Width	Roller Dia.		Pin Dia.	Sidebar Height	Sidebar Thickness	Pin Length			
			A	B		C	D	E	F			
P-10020	U-3945/K3 Every 3rd	4.000	2.000	1.250		0.625	1.500	0.312	3.750	44,000	5,740	9.8
			ATTACHMENT DIMENSIONS									
			Max. Att. Width	Attachment Height		Hole Distance	Tab Width	Hole Spacing		Hole Dia.		
			W	H1	H2	M	N	J1	J2	K		
			6.913	2.125	1.375	1.750	5.625	4.750	5.312	0.438		

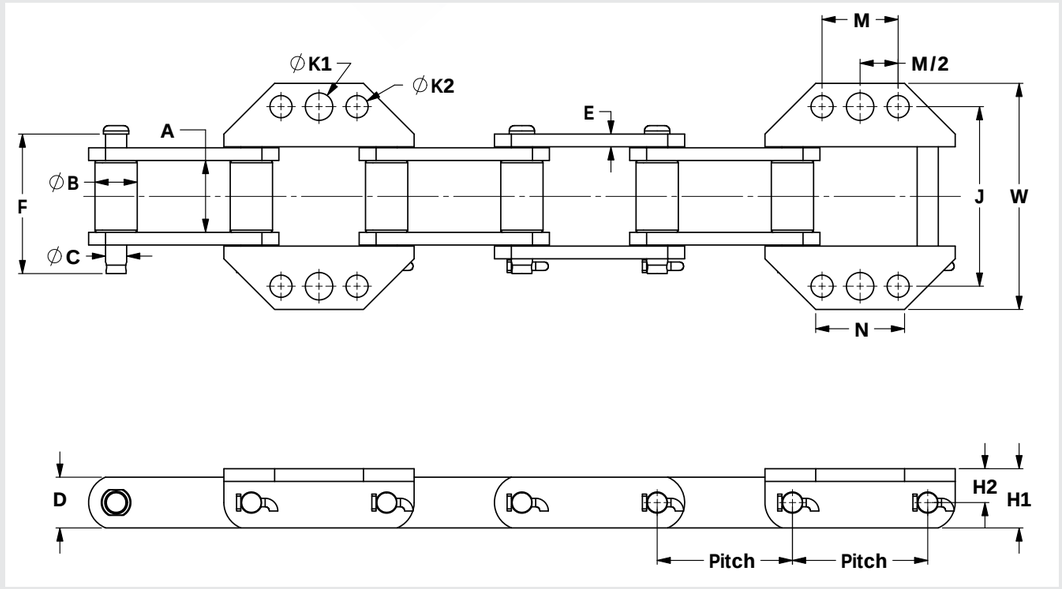


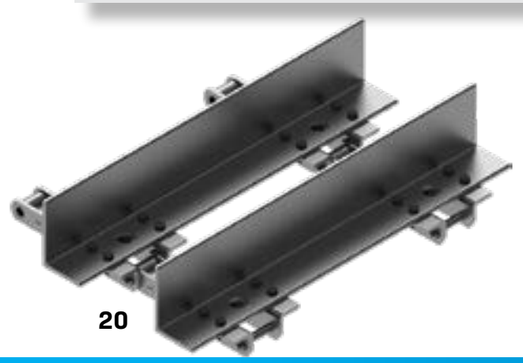
Incline & Transfer Conveyor Chains

P-5827 Chain

All dimensions in inches unless otherwise stated.

Chain Number	Description	Pitch	BASE CHAIN DIMENSIONS								Average Tensile Strength (lbs.)	Max Working Load (lbs.)	Approx. Weight (lbs./ft.)
			Inside Width	Roller Dia.		Pin Dia.	Sidebar Height	Sidebar Thickness	Pin Length				
			A	B		C	D	E	F				
P-5827	3433 K1/K2 Every 4th	4.000	2.125	1.500		0.625	1.500	0.375	4.125		50,000	6,300	9.6
			ATTACHMENT DIMENSIONS										
			Max. Att. Width	Attachment Height		Hole Distance	Tab Width	Hole Spacing	Hole Dia.				
			W	H1	H2	M	N	J	K1	K2			
			6.685	1.750	1.000	2.250	2.628	5.312	0.812	0.656			





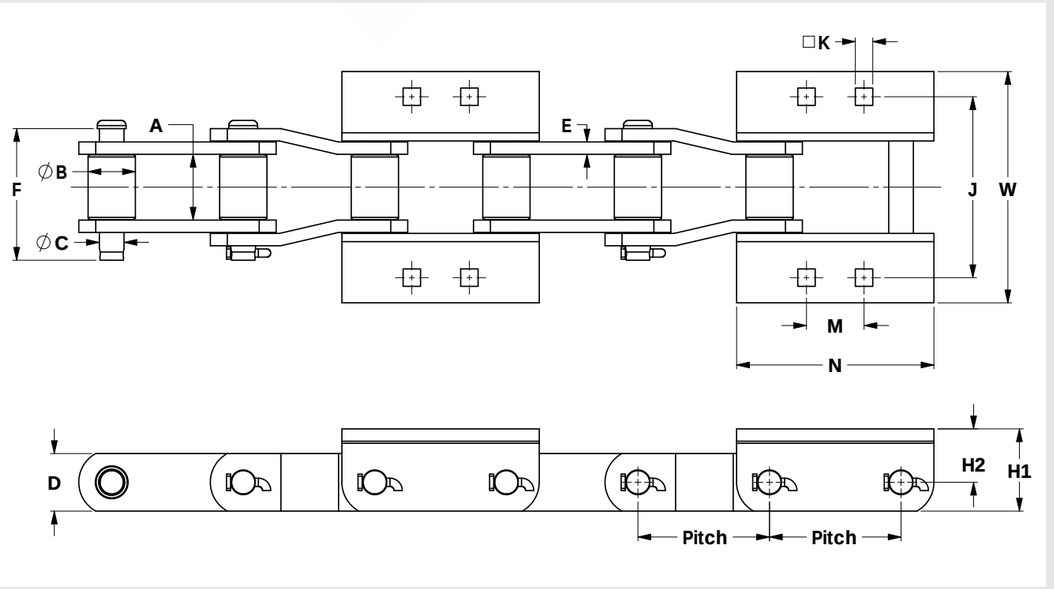
20

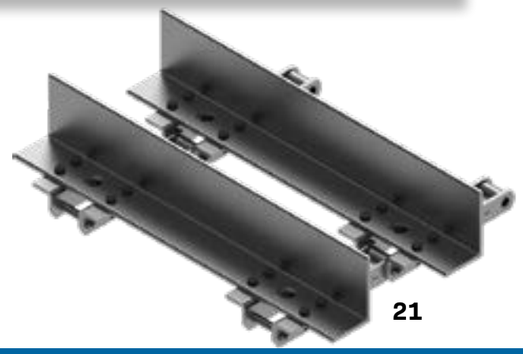
Incline & Transfer Conveyor Chains

P-5836 Chain

All dimensions in inches unless otherwise stated.

Chain Number	Description	Pitch	BASE CHAIN DIMENSIONS						Average Tensile Strength (lbs.)	Max Working Load (lbs.)	Approx. Weight (lbs./ft.)
			Inside Width	Roller Dia.	Pin Dia.	Sidebar Height	Sidebar Thickness	Pin Length			
			A	B	C	D	E	F			
P-5836	U-3952/K2 Every 3rd	4.000	2.000	1.440	0.750	1.750	0.375	4.094	60,000	7,220	12.1
			ATTACHMENT DIMENSIONS								
			Max. Att. Width	Attachment Height		Hole Distance	Tab Width	Hole Spacing	Hole Dia.		
			W	H1	H2	M	N	J	K		
			7.030	2.500	1.625	1.750	6.000	5.500	0.530 (square)		





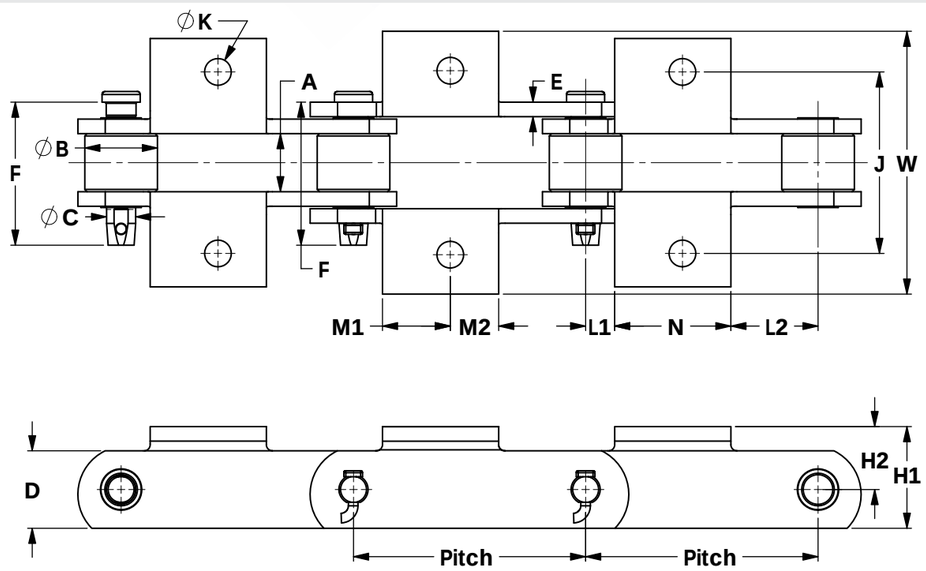
21

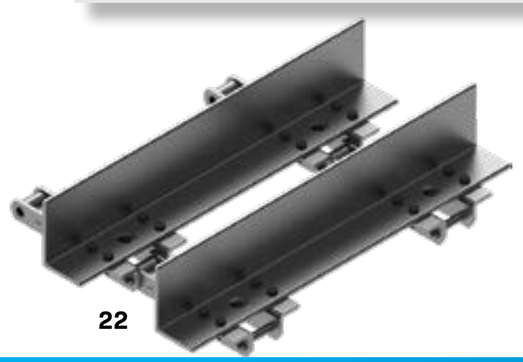
Incline & Transfer Conveyor Chains

P-10024 Chain

All dimensions in inches unless otherwise stated.

Chain Number	Description	Pitch	BASE CHAIN DIMENSIONS									Average Tensile Strength (lbs.)	Max Working Load (lbs.)	Approx. Weight (lbs./ft.)
			Inside Width	Roller Dia.		Pin Dia.		Sidebar Height	Sidebar Thickness	Pin Length				
			A	B		C		D	E	F				
P-10024	2111/K11 Every Link	6.000	1.563	1.875		0.750		2.000	0.375	3.687		83,000	5,900	12.5
			ATTACHMENT DIMENSIONS											
			Max. Att. Width	Attachment Height		Hole Distance		Tab Width	Hole Spacing	Hole Dia.				
			W	H1	H2	M1	M2	N	J	K				
			6.785	2.625	1.625	1.750	1.250	3.000	4.750	0.687				



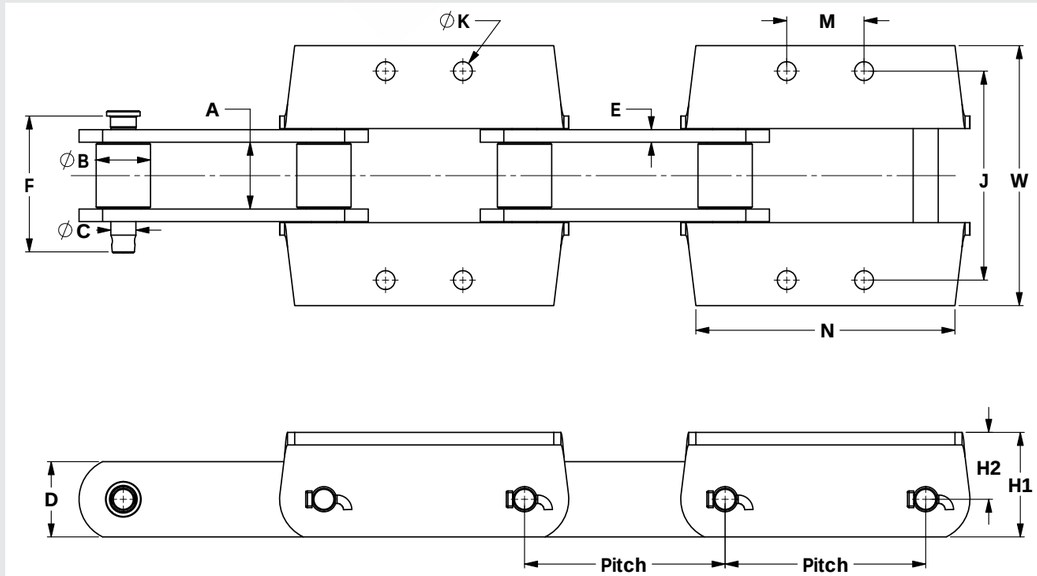


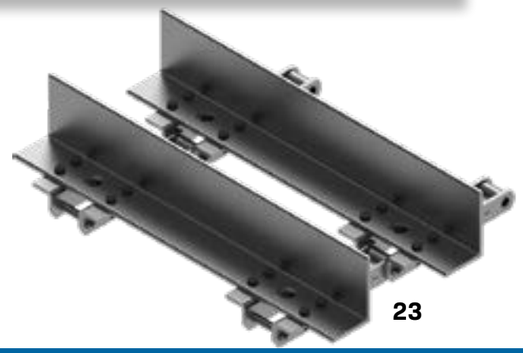
Incline & Transfer Conveyor Chains

P-10023 Chain

All dimensions in inches unless otherwise stated.

Chain Number	Description	Pitch	BASE CHAIN DIMENSIONS						Average Tensile Strength (lbs.)	Max Working Load (lbs.)	Approx. Weight (lbs./ft.)
			Inside Width	Roller Dia.		Pin Dia.	Sidebar Height	Sidebar Thickness	Pin Length			
			A	B		C	D	E	F			
P-10023	U3940/K2 Every 2nd	6.000	2.000	1.625		0.750	2.250	0.375	4.094	100,000	7,200	15.1
			ATTACHMENT DIMENSIONS									
			Max. Att. Width	Attachment Height		Hole Distance	Tab Width	Hole Spacing	Hole Dia.			
			W	H1	H2	M	N	J	K			
			7.774	3.125	2.000	2.313	7.750	6.250	0.563			





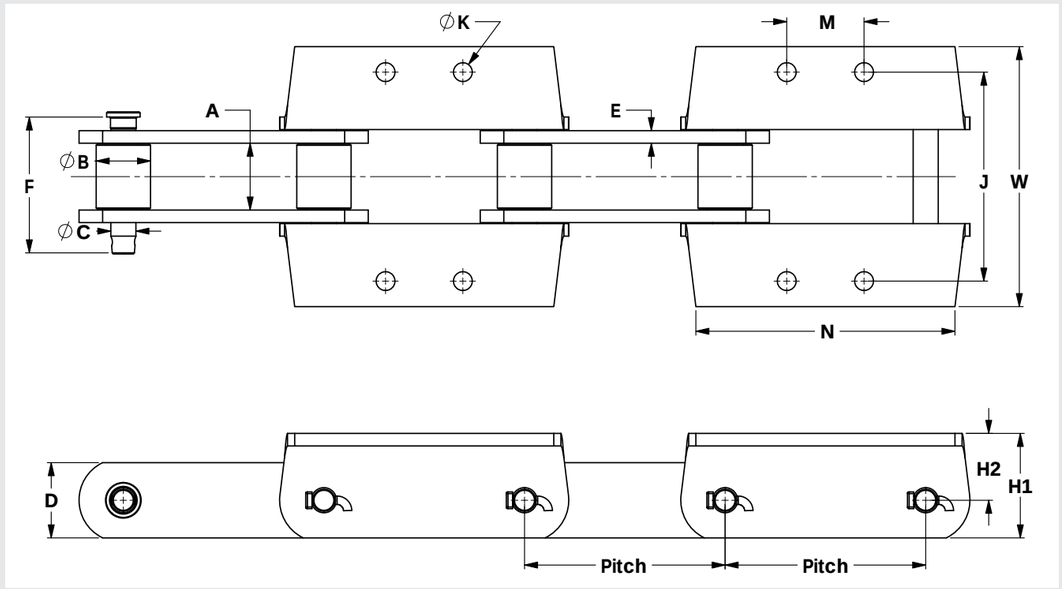
Incline & Transfer Conveyor Chains

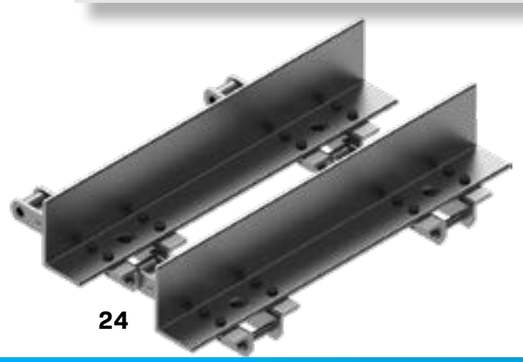
P-10025 Chain

All dimensions in inches unless otherwise stated.

Chain Number	Description	Pitch	BASE CHAIN DIMENSIONS						Average Tensile Strength (lbs.)	Max Working Load (lbs.)	Approx. Weight (lbs./ft.)
			Inside Width	Roller Dia.	Pin Dia.	Sidebar Height	Sidebar Thickness	Pin Length			
			A	B	C	D	E	F			
P-10025*	856/K24 Every 2nd	6.000	3.000	1.750*	1.000	2.500	0.500	5.750	100,000	14,000	22.1
			ATTACHMENT DIMENSIONS								
			Max. Att. Width	Attachment Height		Hole Distance	Tab Width	Hole Spacing	Hole Dia.		
			W	H1	H2	M	N	J	K		
			9.500	3.125	1.875	2.500	7.250	7.250	0.750		

*This is a Steel Bushed Type chain and does not include rollers in its design.



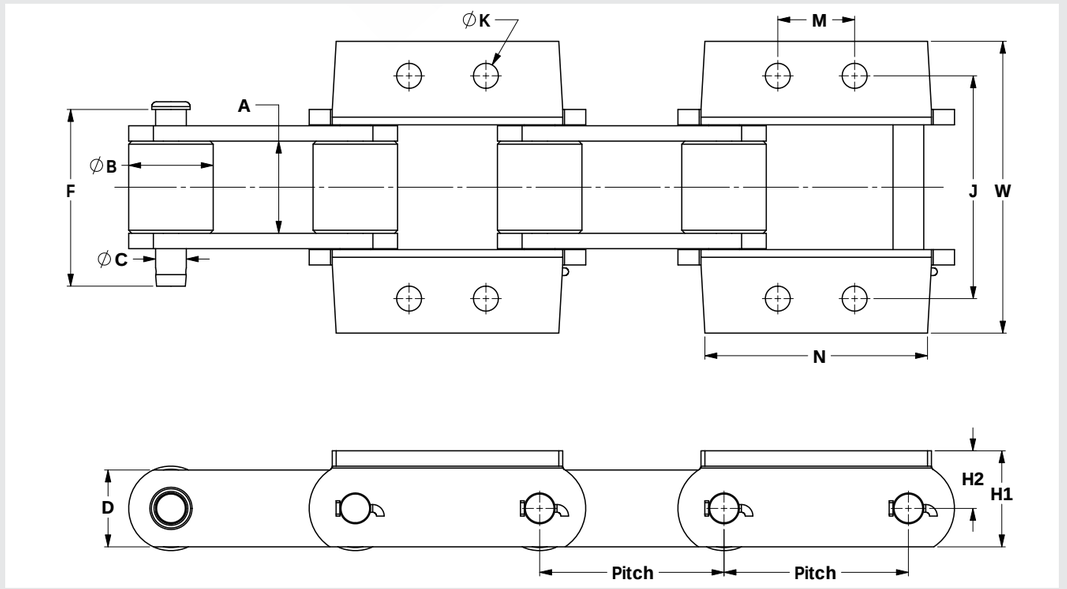


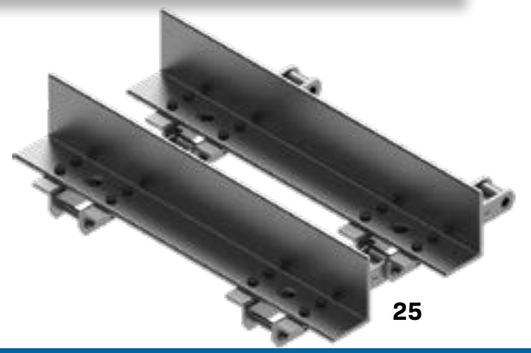
Incline & Transfer Conveyor Chains

P-10026 Chain

All dimensions in inches unless otherwise stated.

Chain Number	Description	Pitch	BASE CHAIN DIMENSIONS						Average Tensile Strength (lbs.)	Max Working Load (lbs.)	Approx. Weight (lbs./ft.)
			Inside Width	Roller Dia.	Pin Dia.	Sidebar Height	Sidebar Thickness	Pin Length			
			A	B	C	D	E	F			
P-10026	U9856/K44 Every 2nd	6.000	3.000	2.750	1.000	2.500	0.500	5.750	120,000	14,000	28.0
			ATTACHMENT DIMENSIONS								
			Max. Att. Width	Attachment Height		Hole Distance	Tab Width	Hole Spacing	Hole Dia.		
			W	H1	H2	M	N	J	K		
			9.500	3.125	1.875	2.500	7.250	7.250	0.750		



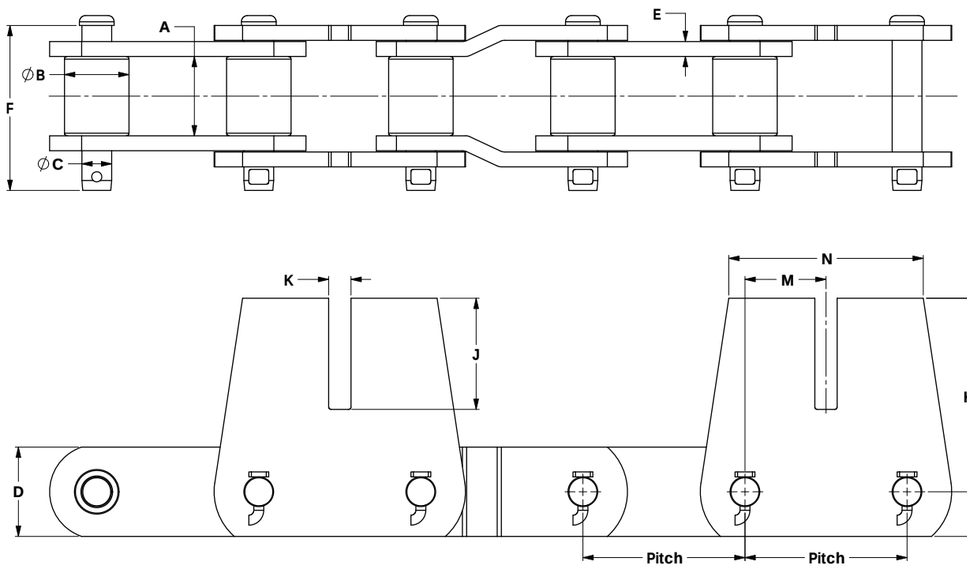


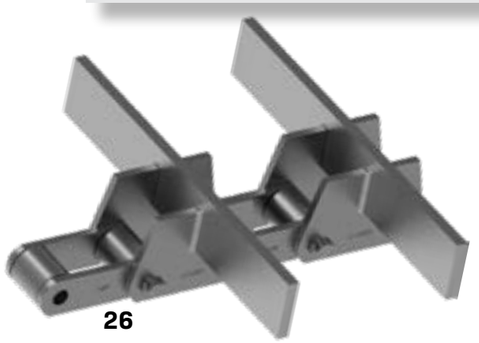
Incline & Transfer Conveyor Chains

P-8194 Chain

All dimensions in inches unless otherwise stated.

Chain Number	Description	Pitch	BASE CHAIN DIMENSIONS						Average Tensile Strength (lbs.)	Max Working Load (lbs.)	Approx. Weight (lbs./ft.)
			Inside Width	Roller Dia.	Pin Dia.	Sidebar Height	Sidebar Thickness	Pin Length			
			A	B	C	D	E	F			
P-8194	U2858/ MM1 Every 3rd	4.083	2.000	1.625	0.750	2.250	0.375	4.300	76,000	7,145	16.5
			ATTACHMENT DIMENSIONS								
			Attachment Height		Slot Placement	Att. Width	Slot Depth	Slot Width			
			H1	H2	M	N	J	K			
			6.000	4.875	2.041	4.902	2.800	0.563			



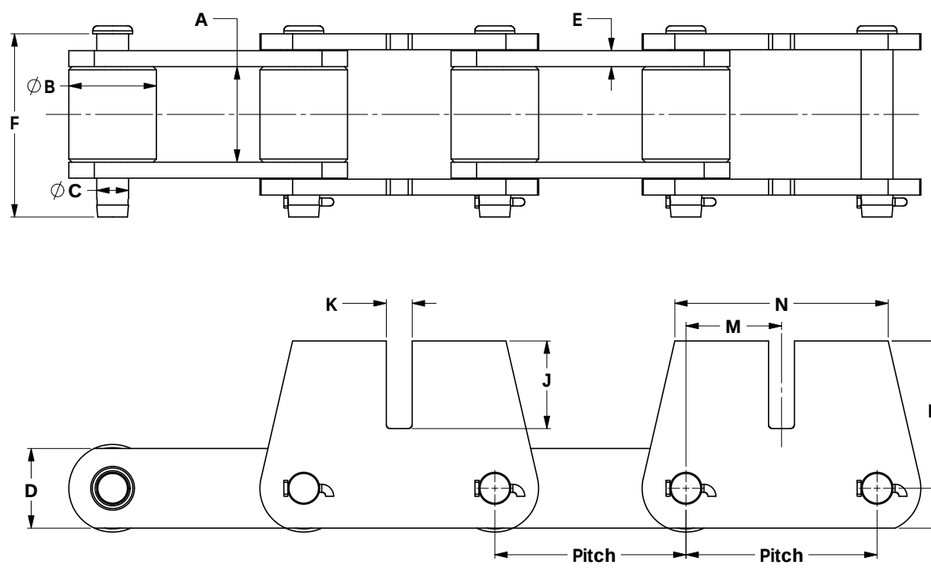


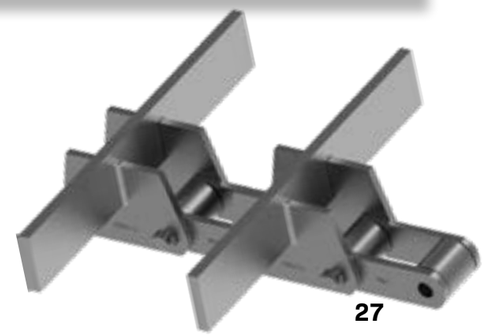
Incline & Transfer Conveyor Chains

P-5623 Chain

All dimensions in inches unless otherwise stated.

Chain Number	Description	Pitch	BASE CHAIN DIMENSIONS						Average Tensile Strength (lbs.)	Max Working Load (lbs.)	Approx. Weight (lbs./ft.)
			Inside Width	Roller Dia.	Pin Dia.	Sidebar Height	Sidebar Thickness	Pin Length			
			A	B	C	D	E	F			
P-5623	U9856/ MM1 Every 2nd	6.000	3.000	2.750	1.000	2.500	0.500	5.750	120,000	14,000	29.0
			ATTACHMENT DIMENSIONS								
			Attachment Height		Slot Placement	Att. Width	Slot Depth	Slot Width			
			H1	H2	M	N	J	K			
			5.875	4.625	3.000	6.696	2.750	0.812			



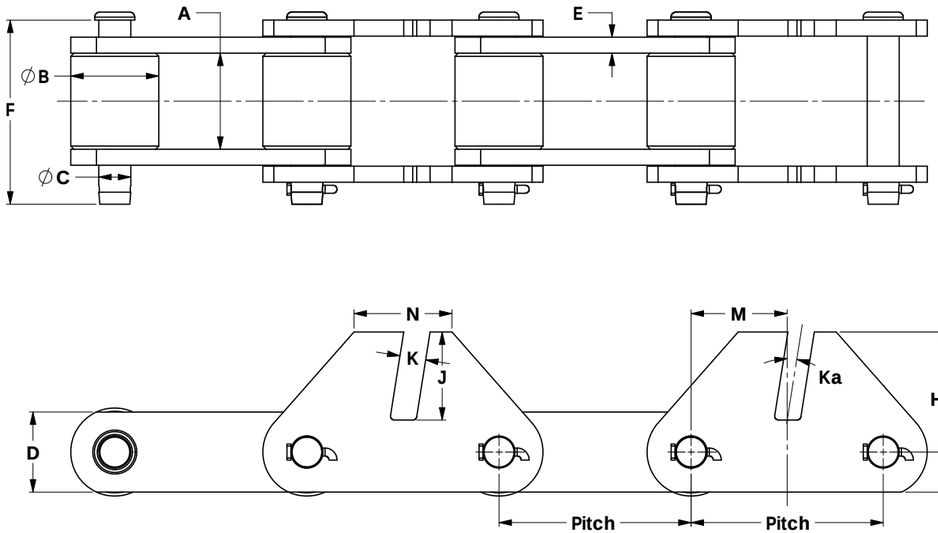


Incline & Transfer Conveyor Chains

P-5946 Chain

All dimensions in inches unless otherwise stated.

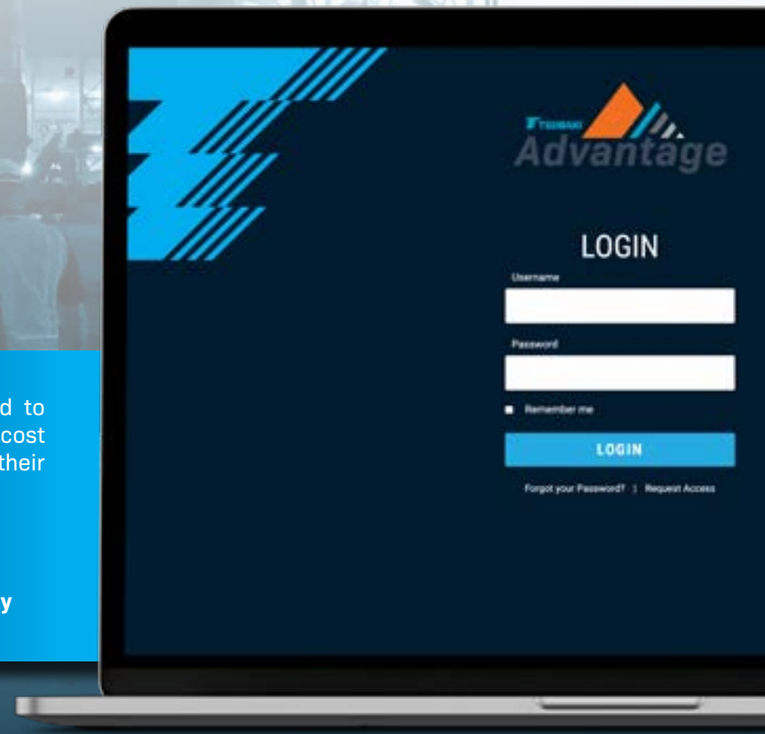
Chain Number	Description	Pitch	BASE CHAIN DIMENSIONS							Average Tensile Strength (lbs.)	Max Working Load (lbs.)	Approx. Weight (lbs./ft.)
			Inside Width		Roller Dia.	Pin Dia.	Sidebar Height	Sidebar Thickness	Pin Length			
			A		B	C	D	E	F			
P-5946	U9856/ MM1 9-Deg Every 2nd	6.000	3.000		2.750	1.000	2.500	0.500	5.750	120,000	14,000	29.0
			ATTACHMENT DIMENSIONS									
			Attachment Height		Slot Placement	Att. Width	Slot Depth	Slot Width	Slot Angle			
			H1	H2	M	N	J	K	Ka			
			5.000	3.750	3.000	3.063	2.750	0.812	9°			



TSUBAKI Advantage

TRACK PERFORMANCE & COST SAVINGS

Identify your application's critical products in seconds with **Tsubaki Advantage**, a database that tracks your application, maintenance information, and cost savings and allows you to easily schedule a **ProService®** inspection with Tsubaki's technical solutions team.



Tsubaki Advantage has been used to document millions of dollars in cost savings for customers by tracking their savings associated with:

- **Product Replacement**
- **Decreased maintenance**
- **Increased uptime & productivity**

Contact your Tsubaki local sales representative for more information on how to enroll on the **Tsubaki Advantage** program.

Engineering Class Sprockets

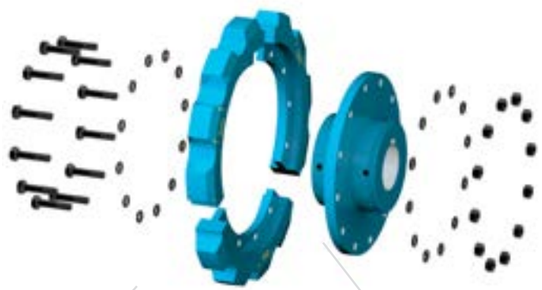
Tsubaki of Canada Limited is the manufacturer to trust in the fabrication of **asphalt sprockets** and related parts. Using the best balance of material, heat treatment, design, and manufacturing processes, trust Tsubaki to provide the **longest lasting drive components for the toughest of applications**.

Unified Sprocket

Replace only the worn portion of the sprocket easily. Segmental Rim style sprockets help keep operations running and downtime to a minimum.

ENGINEERING CLASS SPROCKETS FROM TSUBAKI®

- Tsubaki maintains a wide array of sprocket options and can offer premium fabricated sprockets and traction rims for any application.Tsubaki sprockets are designed specifically based on the mating chain to assure proper dynamic interaction/articulation.
- High Carbon, Alloy or abrasion resistant options are available.
- All Tsubaki Engineering Class sprockets and traction rims are uniquely heat treated based on specific, proprietary schedules to ensure long and reliable service life.
- Lightening holes, utilized to reduce weight and allow for efficient/safe handling are available for most designs.



Segmental Rim Sprocket

- High Quality 1045 Steel
- Min 50 HRC Tooth Hardness to withstand extreme abrasion.

Hub Body

- Solid Construction to ensure strength in operation.
- Easily mountable to standard shafting.
- Also available in Split style for easy replacement.

Return Support Rollers

Support the weight of the chain on the conveyor return side with rollers machined to the chain's exact profile.

Construction Style Sprockets

Using the right chain is only the first step

Solid

- Solid plate, welded to solid hub.
- A basic, economic construction.

Split

- Two-piece split plate, split hub.
- A basic construction that allows for easier installation – can remove without removing shaft.

Segmented

- Solid plate welded to hub with bolt on segments.
- An innovative construction that allows for easy segment replacement—can remove without removing shaft or hub body.

Segmented / Split

- A split plate/hub with bolt on segments.
- Ultimate flexibility – Segment or hub body can be easily serviced/replaced without removing shaft.

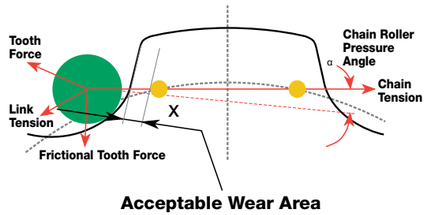
Chain Saver Sprockets

- A unique design that incorporates a special flanged rim on either side of the sprocket body.
- The chain sidebars rest on the flange as the chain wraps around the sprocket.
- This configuration keeps the chain on true center and distributes the load over a greater contact area, thus reducing the rate of wear.

Traction Rim / Wheel

- Essentially a sprocket without teeth.
- Available as a solid, segmented or a segmented/split design.
- Ideal for single strand bucket elevators and/or abrasive conveyor applications.
- Coefficient of friction must be great enough to allow the wheel to drive.
- Key Benefit – Allows the chain to slip in an overload or obstructed condition.

Smart Tooth® Sprocket Technology



Tsubaki's Smart Tooth® sprockets with patented **Wear Indicator Technology** offer the ability to easily and proactively identify and schedule maintenance before a critical component failure. This innovative design not only allows for proactive sprocket wear identification, it also mitigates the risk of worn sprockets permanently damaging the mating chain. This patented technology is **available on most Engineering Class Sprockets.**

- **Extended chain life through predictable maintenance**
- **Eliminates the guesswork associated with worn sprockets**
- **Reduces overall cost of equipment ownership**
- **Provides warning of catastrophic drive failure**
- **Provides the opportunity to schedule maintenance based on sprocket wear rate**

U-2858 Sprocket

Pitch	No. of Teeth	Pitch Diameter	Use Hub Body #	Sprocket Face Width	Max. Bolt Torque (lbs./ft.)	Approx. Weight per Set (lbs.)
4.083	8	10.669	*	1.750	-	-
4.083	9	11.938	*	1.750	-	-
4.083	10	13.213	*	1.750	-	-
4.083	11	14.492	*	1.750	-	-
4.083	12	15.776	10	1.750	110	62
4.083	13	17.061	10	1.750	110	80
4.083	14	18.349	12	1.750	180	83
4.083	15	19.638	12	1.750	180	103

All Dimensions are in inches unless otherwise indicated.
*Made-To-Order (MTO) Hub Required.
**Large Number of Holes Required.

U-3952 Sprocket

Pitch	No. of Teeth	Pitch Diameter	Use Hub Body #	Sprocket Face Width	Bolt Size	Max. Bolt Torque (lbs./ft.)	Approx. Weight per Set (lbs.)
4.000	8	10.453	*	1.750	-	-	-
4.000	9	11.695	*	1.750	-	-	-
4.000	10	12.944	*	1.750	-	-	-
4.000	11	14.198	*	1.750	-	-	-
4.000	12	15.455	10	1.750	0.500	110	62
4.000	13	16.714	10	1.750	0.500	110	79
4.000	14	17.976	12	1.750	0.625	180	82
4.000	15	19.239	12	1.750	0.625	180	102

All Dimensions are in inches unless otherwise indicated.
*Made-To-Order (MTO) Hub Required.
**Large Number of Holes Required.

3433 Sprocket

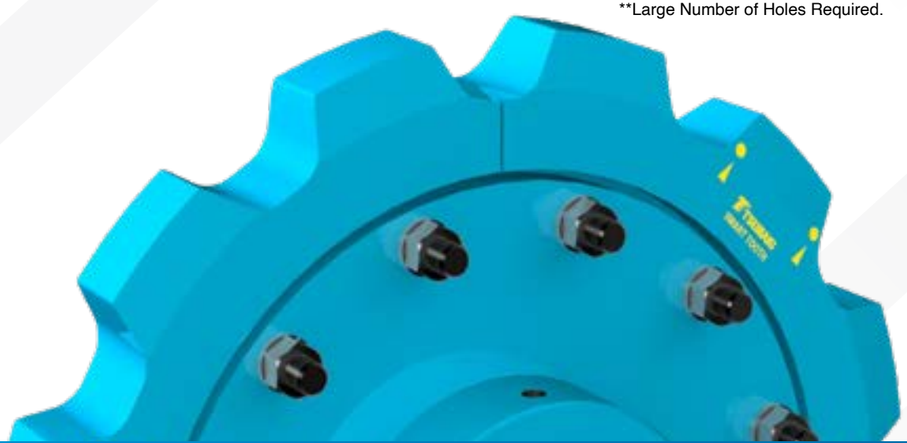
Pitch	No. of Teeth	Pitch Diameter	Use Hub Body #	Sprocket Face Width	Bolt Size	Max. Bolt Torque (lbs./ft.)	Approx. Weight per Set (lbs.)
4.000	8	10.453	*	1.750	-	-	-
4.000	9	11.695	*	1.750	-	-	-
4.000	10	12.944	*	1.750	-	-	-
4.000	11	14.198	*	1.750	-	-	-
4.000	12	15.455	10	1.750	0.500	110	58
4.000	13	16.714	10	1.750	0.500	110	74
4.000	14	17.976	12	1.750	0.625	180	78
4.000	15	19.239	12	1.750	0.625	180	94

All Dimensions are in inches unless otherwise indicated.
*Made-To-Order (MTO) Hub Required.
**Large Number of Holes Required.

U-9856 Sprocket

Pitch	No. of Teeth	Pitch Diameter	Use Hub Body #	Sprocket Face Width	Bolt Size	Max. Bolt Torque (lbs./ft.)	Approx. Weight per Set (lbs.)
6.000	8	15.679	*	2.750	-	-	-
6.000	9	17.543	**10 (with 18 Holes)	2.750	0.500	110	146
6.000	10	19.416	12	2.750	0.625	180	189
6.000	11	21.297	12	2.750	0.625	180	214
6.000	12	23.182	**12 (with 15 Holes)	2.750	0.625	180	271
6.000	13	25.071	16	2.750	0.750	320	333
6.000	14	26.964	16	2.750	0.750	320	325
6.000	15	28.858	20	2.750	0.750	320	346

All Dimensions are in inches unless otherwise indicated.
*Made-To-Order (MTO) Hub Required.
**Large Number of Holes Required.

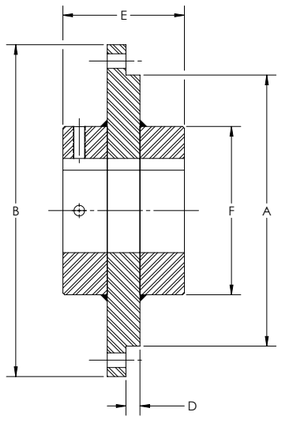


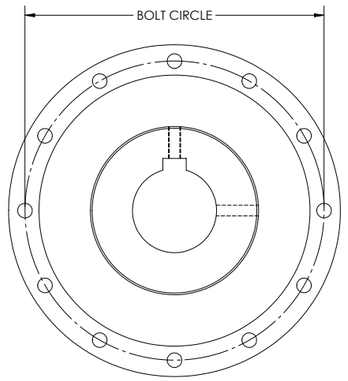
Engineering Class Sprockets

Segmental Sprocket Specifications

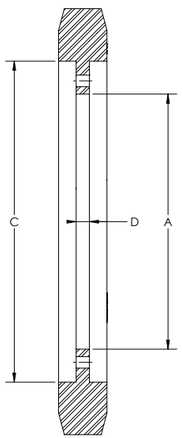
Hub Body Number[1]	Bolt Circle Diameter	Bolt Size/ Quantity	Nominal A	B	C	D	Standard E	Standard F	Maximum Bore	Approx. Weight (lbs.)
10	10	.500/12	8.50	11.75	12.25	.625	6.00	7.0	4.44	78
12	12	.625/12	10.50	13.75	14.25	.750	6.25	8.0	5.44	115
16	16	.750/12	14.50	17.75	18.25	.750	6.50	9.0	5.94	175
20	20	.750/12	18.50	21.75	22.25	.875	7.75	11.0	7.00	325
25	25	.1000/12	23.00	21.75	28.25	1.000	9.00	13.0	9.00	570

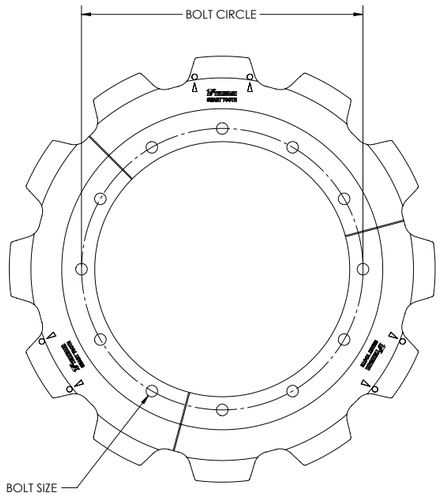
All Dimensions are in inches unless otherwise indicated.
1- Hub body number indicates bolt circle diameter and does not ensure interchangability between manufacturers. Call Tsubaki for details.





Hub Body

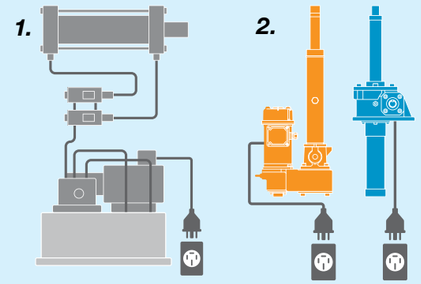




Segmental Rim

Power Cylinder

Tsubaki Power Cylinders hit the mark every time. These electric cylinders operate with just simple wiring and have several advantages over hydraulic or pneumatic actuators. First, without extra parts like pneumatic or hydraulic piping, maintenance is a snap, **saving time and money**. Plus Tsubaki power cylinders are designed for safe and clean operation. Various built-in overload devices give users **peace of mind, and a leak-proof casing prevents oil spills.**

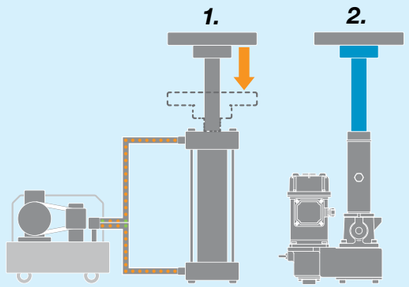


Simple Installation

1. Hydraulic/Pneumatic Cylinders require an entire pressurized fluid system.
2. Power Cylinders only require electrical wiring. No need for compressor, piping, or valves.

Maximum Control

1. Hydraulic/Pneumatic Cylinders require position sensors and a physical stopper to have immediate positioning.
2. Power Cylinders can have built in encoders that can be incorporated into a control system to provide accurate multi-point stopping positions.

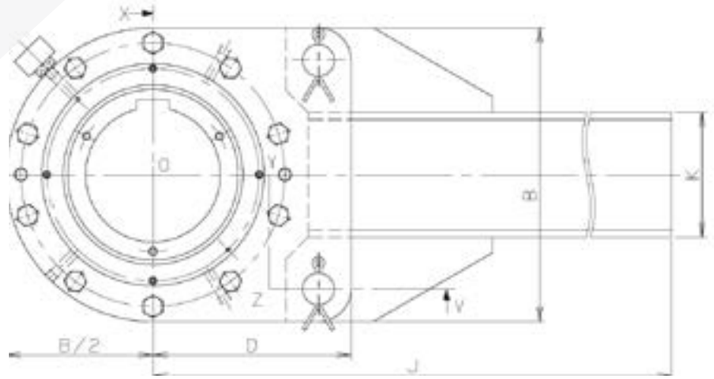


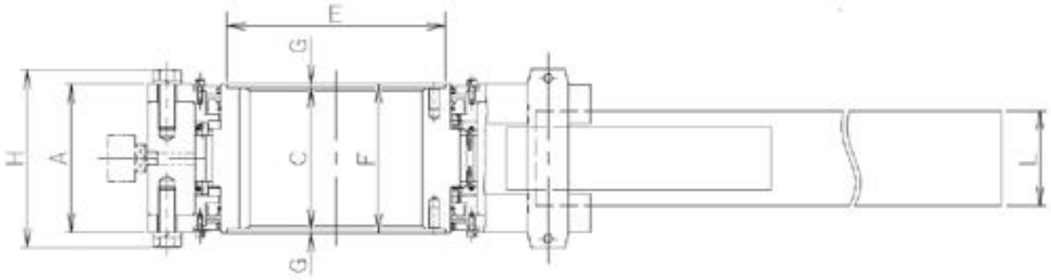
Safe Operation

1. Hydraulic/Pneumatic Cylinders require a constant pressure source to hold a load, and pipe leaks can cause gradual retraction of the load.
2. Power Cylinders are supplied with brake meters that allow the cylinder to hold a load in position with no power equipment.

BS-F Cam Clutch

In inclined conveyor and bucket elevator applications, **Backstopping Clutches** are used to prevent reverse rotation of drive shafts which may cause damage to machinery and expensive equipment. The inner race can overrun freely in one direction of rotation. Reverse rotation is instantaneously prevented by the automatic engagement of the clutch. Typical backstop applications are in conveyor systems and gear reducers. **Tsubaki has pioneered the non-rollover design.**





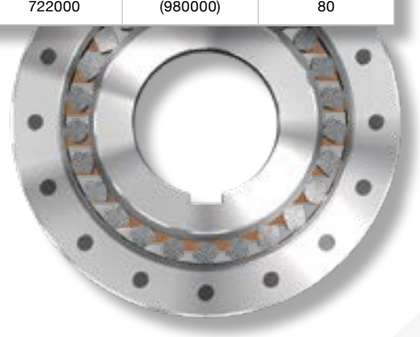
BS-F Cam Clutch

All dimensions in inches unless otherwise stated.

Model	Torque lb. ft. (Nm)	Inner Race Max Overrun Speed (RPM)	Drag Torque lb. ft. (Nm)	DIMENSIONS in. (mm) A	B	C	D	E	F	G	H	J	K	L	Amount of Grease lbs. (kg)	Weight lbs (kg)
BS85F	4980	300	6.00	4.210	8.270	4.130	5.940	4.170	4.720	0.300	5.000	32.010	2.990	2.520	0.140	94.6
	(6760)		(8.0)	(107)	(210)	(105)	(151)	(106)	(120)	(7.5)	(127)	(813)	(76)	(64)	(0.065)	(43)
BS95F	6590	300	7.37	4.210	9.060	4.410	6.340	4.720	4.720	0.160	5.000	35.980	4.020	2.800	0.170	114.4
	(8940)		(10.0)	(107)	(230)	(112)	(161)	(120)	(120)	(4)	(127)	(914)	(102)	(71)	(0.075)	(52)
BS115F	12000	300	11.05	5.000	10.630	5.000	7.130	5.590	5.310	0.160	5.870	50.000	4.020	2.800	0.230	180.4
	(16300)		(15.0)	(127)	(270)	(127)	(181)	(142)	(135)	(4)	(149)	(1270)	(102)	(71)	(0.105)	(82)
BS140F	18000	300	14.74	5.000	12.600	5.280	8.170	6.690	5.590	0.160	5.940	55.980	5.000	2.990	0.330	250.8
	(24400)		(20.0)	(127)	(320)	(134)	(207.5)	(170)	(142)	(4)	(151)	(1422)	(127)	(76)	(0.15)	(114)
BS165F	32500	300	25.06	5.550	14.170	5.280	9.550	8.230	5.590	0.160	6.650	65.980	5.980	3.580	0.350	382.8
	(44100)		(34.0)	(141)	(360)	(134)	(242.5)	(209)	(142)	(4)	(169)	(1676)	(152)	(91)	(0.16)	(174)
BS200F	45500	180	32.43	5.910	16.930	5.590	11.180	9.880	5.910	0.160	7.010	72.010	7.990	4.170	0.420	578.6
	(61700)		(44.0)	(150)	(430)	(142)	(284)	(251)	(150)	(4)	(178)	(1829)	(203)	(106)	(0.19)	(263)
BS225F	75200	150	54.54	10.120	19.690	7.990	12.800	10.630	10.550	1.280	11.540	77.990	10.000	4.650	2.860	1075.8
	(102000)		(74.0)	(257)	(500)	(203)	(325)	(270)	(268)	(32.5)	(293)	(1981)	(254)	(118)	(1.3)	(489)
BS250F	108000	135	68.54	9.720	23.620	9.020	15.160	11.810	10.710	0.850	11.140	82.010	12.010	5.000	3.080	1522.4
	(147000)		(93.0)	(247)	(600)	(229)	(385)	(300)	(272)	(21.5)	(283)	(2083)	(305)	(127)	(1.4)	(692)
BS270F	141000	125	72.22	10.510	25.590	10.000	16.340	13.540	11.020	0.510	11.930	87.990	12.010	5.510	3.520	1955.8
	(192000)		(98.0)	(267)	(650)	(254)	(415)	(344)	(280)	(13)	(303)	(2235)	(305)	(140)	(1.6)	(889)
BS300F	254000	115	79.60	10.940	30.710	10.750	19.290	16.930	11.260	0.260	12.600	94.020	15.000	5.630	3.960	2860.0
	(345000)		(108.0)	(278)	(780)	(273)	(490)	(430)	(286)	(6.5)	(320)	(2388)	(381)	(143)	(1.8)	(1300)
BS360F	360000	100	115.71	11.500	36.610	10.940	23.030	19.290	11.260	0.160	13.580	100.000	17.990	5.980	4.180	4114
	(489000)		(157.0)	(292)	(930)	(278)	(585)	(490)	(286)	(4)	(345)	(2540)	(457)	(152)	(1.9)	(1870)
BS425F	542000	85	159.19	14.960	40.550	15.590	25.390	23.620	15.910	0.160	17.050	107.990	20.000	6.380	7.700	6776
	(735000)		(216.0)	(380)	(1030)	(396)	(645)	(600)	(404)	(4)	(433)	(2743)	(508)	(162)	(3.5)	(3080)
BS465F	722000	80	180.56	16.140	42.910	16.420	27.170	23.620	17.010	0.300	18.660	120.000	24.020	7.240	9.680	8294
	(980000)		(245.0)	(410)	(1090)	(417)	(690)	(600)	(432)	(7.5)	(474)	(3048)	(610)	(184)	(4.4)	(3770)

How to Order BS-F Cam Clutch

BS	165	F	-	6.500		SPECIFICATIONS		
Series	Frame Size	Reservoir	-	Available Bore Range		Torque Capacity		Overrunning Max. RPM
						lb. ft.	(Nm)	
BS: Backstop Type	85	**F**: F-Series	-	2.360” to 3.350”	(60 to 85 mm)	4980	(6760)	300
	95			2.750” to 3.740”	(70 to 95 mm)	6590	(8940)	300
	115			3.150” to 4.530”	(80 to 115 mm)	12000	(16300)	300
	140			3.540” to 5.510”	(90 to 140 mm)	18000	(24400)	300
	165			3.940” to 6.500”	(100 to 165 mm)	32500	(44100)	300
	200			3.940” to 7.870”	(100 to 200 mm)	45500	(61700)	180
	225			5.900” to 8.860”	(150 to 225 mm)	75200	(102000)	150
	250			6.880” to 9.840”	(175 to 250 mm)	108000	(147000)	135
	270			7.870” to 10.630”	(200 to 270 mm)	141000	(192000)	125
	300			9.050” to 11.810”	(230 to 300 mm)	254000	(345000)	115
	360			9.840” to 14.170”	(250 to 360 mm)	360000	(489000)	100
	425			12.790” to 16.730”	(325 to 425 mm)	542000	(735000)	85
	465			13.780” to 18.310”	(350 to 465 mm)	722000	(980000)	80



One-Touch Door

Our pre-fabricated **Steel Doors** seal out debris and rain but permit internal conveyor inspections simply by lifting the handle - with no bolts to loosen and no cover to misplace. A variety of sizes and styles are in-stock and ready-to-go for quick and easy installation at the job site. Framework made of high quality mild steel or stainless steel to ensure durability and long service life. **Specially designed gaskets are able to handle -95°F up to +550°F and ensure the right fit.** You can’t build better access to your lines.

EASY ACCESS IN 3 EASY STEPS

1. POSITION THE DOOR
Place the door frame at the appropriate site and tack weld it into position. Then solidly weld the frame to the surface.

2. CUT THE INSIDE HOLE
Open the door and carefully torch burn the center to create the access point.

3.COMPLETE INSTALLATION
After the area has cooled, attach the lever, apply the gasket, and place the safety warning label in a prominent position.

Need a **special size** or **extra handles?**
Want to change the **location of handles** or **hinges?**

Contact Tsubaki.
We can work with you on special requirements.

GASKET OPTIONS

	MATERIAL	TEMPERATURE RANGES
STANDARD MODEL	POLYETHYLENE (SG)	-95°F to 175°F
	EPICHLORHYDRIN (ECH)	-40°F to 275°F
	SILICON RUBBER (HT)	-67°F to 400°F
LARGE MODEL	MATERIAL	TEMPERATURE RANGES
	NEOPRENE RUBBER	-20°F to 160°F
	SILICON RUBBER (HT)	-80°F to 550°F

MATERIAL SIZES/THICKNESS

DESCRIPTION	FRAME	COVER
STANDARD MODEL	1/8"	13 Gauge
LARGE MODEL	1/4"	10 Gauge

COMPONENT COMPOSITION

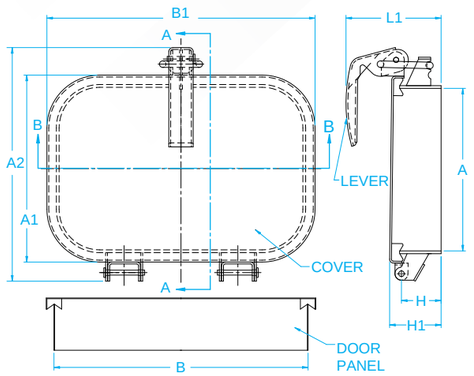
MODEL #	BODY MATERIAL	HANDLE MATERIAL
P SERIES	Mild Steel with Rust-Proof Primer	Chrome-plated
Q SERIES	304 Stainless Steel	Chrome-plated
R SERIES	304 Stainless Steel	304 Stainless Steel
QS SERIES*	316L Stainless Steel	Chrome-plated
RS SERIES*	316L Stainless Steel	304 Stainless Steel

COMPONENT COMPOSITION

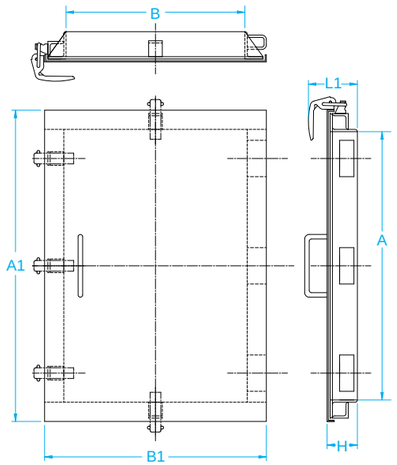
L SERIES	OPTIONS
BODY MATERIAL	Mild Steel, Stainless Steel*
LEVER MATERIAL	Mild Steel, Stainless Steel*
BODY FINISH	Rust-proof Primer
HANDLE FINISH	Chrome-plated
GASKET OPTION	Neoprene Rubber, Silicon Rubber

*Call for availability.

Standard Model



Large Model



STANDARD ONE-TOUCH INSPECTION DOOR SPECIFICATIONS

STYLE/MODEL#		DOOR FRAME				COVER					LEVER			APPROX WEIGHT (LBS.)	
				H					H1		L1				
Reg.	High Neck	A	B	Reg.	High Neck	A1	A2	B1	Reg.	High Neck	Reg.	High Neck	Qty.	Reg.	High Neck
P1	P1H	5	8	2	4	6 ¼	8 ½	9	2 ½	4 ½	4 ½	6 ½	1	5	6
P2	P2H	8	12	2	4	9	11 ¼	13	2 ½	4 ½	4 ½	6 ½	1	7	9
P3	P3H	13 ¾	19 ¾	2	4	15	17 ¼	20 ¾	2 ½	4 ½	4 ½	6 ½	2	13	18
P4	-	19 ¾	23 ½	3	N/A	20 ¾	23 ¼	24 ¾	3 ½	N/A	4 ½	N/A	2	24	N/A
304 STAINLESS STEEL BODY, CHROME-PLATED HANDLE															
Q1	Q1H	5	8	2	4	6 ¼	8 ½	9	2 ½	4 ½	4 ½	6 ½	1	5	6
Q2	Q2H	8	12	2	4	9	11 ¼	13	2 ½	4 ½	4 ½	6 ½	1	7	9
Q3	Q3H	13 ¾	19 ¾	2	4	15	17 ¼	20 ¾	2 ½	4 ½	4 ½	6 ½	2	13	18
Q4	-	19 ¾	23 ½	3	N/A	20 ¾	23 ¼	24 ¾	3 ½	N/A	4 ½	N/A	2	24	N/A
304 STAINLESS STEEL BODY, STAINLESS STEEL HANDLE															
R1	R1H	5	8	2	4	6 ¼	8 ½	9	2 ½	4 ½	4 ½	6 ½	1	5	6
R2	R2H	8	12	2	4	9	11 ¼	13	2 ½	4 ½	4 ½	6 ½	1	7	9
R3	R3H	13 ¾	19 ¾	2	4	15	17 ¼	20 ¾	2 ½	4 ½	4 ½	6 ½	2	13	18
R4	-	19 ¾	23 ½	3	N/A	20 ¾	23 ¼	24 ¾	3 ½	N/A	4 ½	N/A	2	24	N/A

LARGE ONE-TOUCH INSPECTION DOOR SPECIFICATIONS

Model #	DOOR OPENING		COVER			LEVER		Approx Weight (lbs)
	A	B	A1	B1	H	L1	Qty.	
L1	29 ½	19 ¾	34 ¼	24 ½	3 ¼	5 ¼	5	80
L2	39 ¼	25 ½	44	30 ¼	3 ¼	5 ¼	6	111
L3	47 ¼	31 ½	52	36 ¼	3 ¼	5 ¼	8	140.8

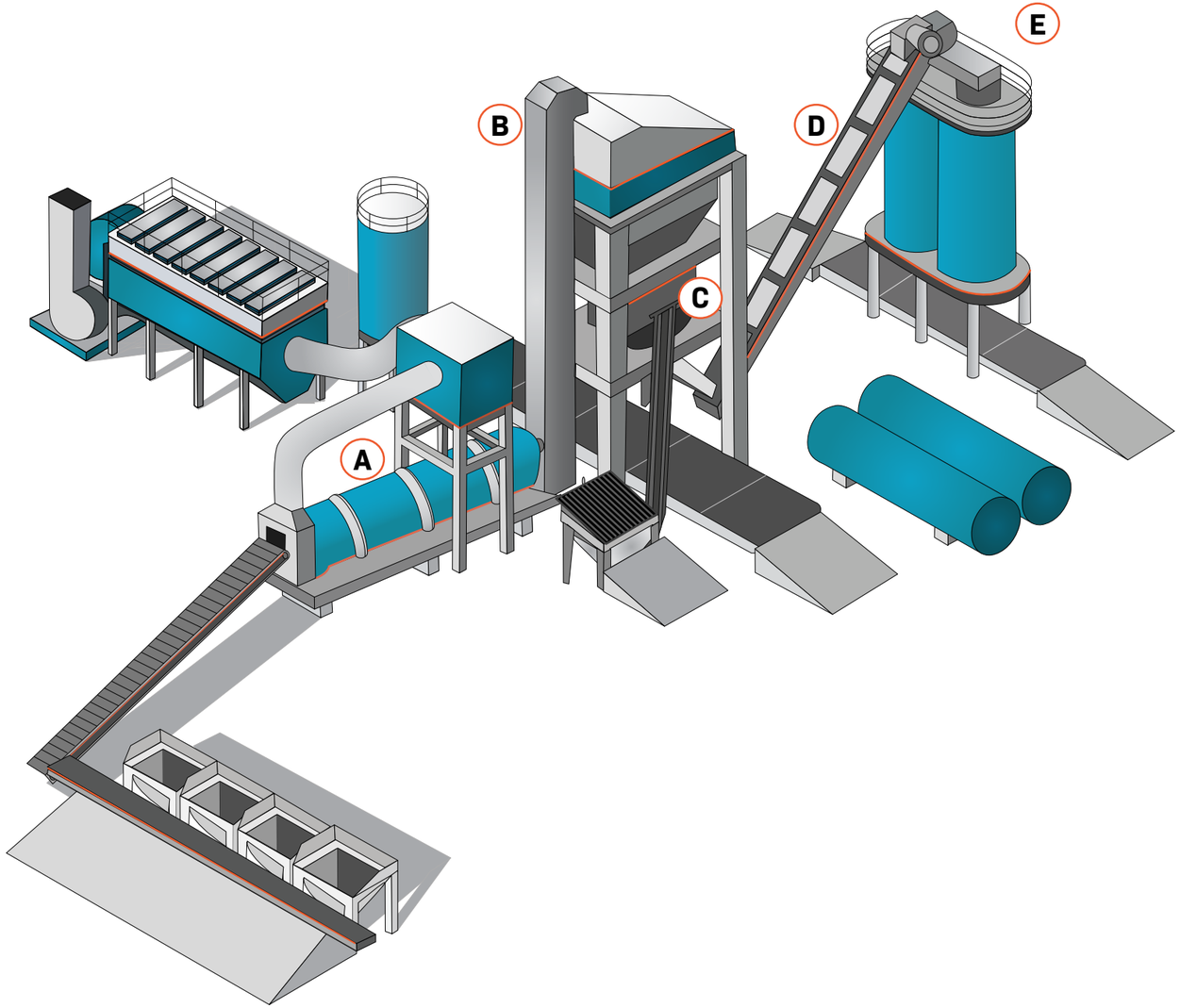
MADE-TO-ORDER ONE-TOUCH INSPECTION DOOR SPECIFICATIONS

316L STAINLESS STEEL BODY, CHROME PLATED HANDLE															
QS1	QS1H	5	8	2	4	6 ¼	8 ½	9	2 ½	4 ½	4 ½	6 ½	1	5	6
QS2	QS2H	8	12	2	4	9	11 ¼	13	2 ½	4 ½	4 ½	6 ½	1	7	9
QS3	QS3H	13 ¾	19 ¾	2	4	15	17 ¼	20 ¾	2 ½	4 ½	4 ½	6 ½	2	13	18
316L STAINLESS STEEL BODY, 304 STAINLESS STEEL HANDLE															
RS1	RS1H	5	8	2	4	6 ¼	8 ½	9	2 ½	4 ½	4 ½	6 ½	1	5	6
RS2	RS2H	8	12	2	4	9	11 ¼	13	2 ½	4 ½	4 ½	6 ½	1	7	9
RS3	RS3H	13 ¾	19 ¾	2	4	15	17 ¼	20 ¾	2 ½	4 ½	4 ½	6 ½	2	13	18

Dimensions are in inches unless otherwise indicated and are rounded to the nearest ¼".

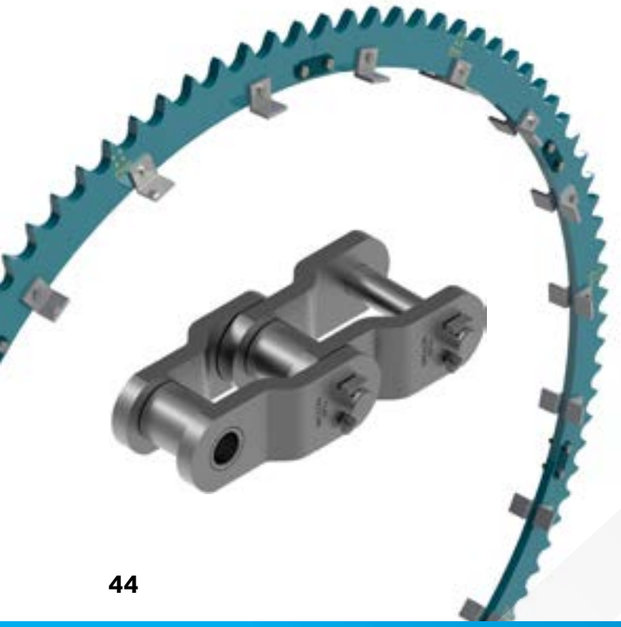
Asphalt Plant Solutions

Applications		Challenges		Tsubaki Solutions		
				Chain Family	Chain Product	Sprockets
A	**Rotary Drum Dryer**	See Page 44	High vibration & shock load, exposed to weather and elements.	Engineering Class Chains	Premium Engineering Class Drive Chains 4-7" Pitch	Large Bolt On Style Segmental Engineering Class Drive Chain sprockets. Locally manufactured and heat treated for optimal wear resistance.
B	**Bucket Elevator**	See Page 46	Lots of vibration, high speed elevator applications are prone to fatigue and mechanical wear.	Steel Bushed Engineering Class Chains	4-6" Pitch Asphalt specific & Premium WorkHorse® Series Chains designed with features to ensure unmatched performance.	Sprockets: 8-16 tooth sprockets with hardened contact surfaces designed to extend wear life and increase productivity. Split style available for easy installation/removal. Traction Wheels: Solid or split style with hardened outer rim for optimal wear resistance.
C	**Transfer Conveyor** (Mid-stage)	See Page 48	Dry, high heat application. Abrasive debris can wear down components rapidly.	EC Roller Conveyor & Steel Bushed	4-6" Pitch Engineering Class Roller or Steel bushed chains	Split style sprockets for easy installation and replacement. Heat treated for wear resistance. Split to bolt hubs also available for added convenience. Smart Tooth® Optional
D	**Large Incline Scraper Conveyor**	See Page 50	High temperatures, high load & sticky final product. Shock loading & fatigue often biggest factors affecting chain life.	Engineering Class Roller Conveyor Chain	Premium Asphalt chains with bolted angle flights or welded plates. Plates often supplied with high hardness to withstand abrasive effects of scraping action.	Sprockets: 12-16 tooth segmental style head sprockets, bolted to reusable hubs for ease of tooth replacement. Traction Wheels: Hardened engagement surface for optimal wear resistance, solid & segmental style available upon request. Support Rollers: Split style for easy installation and removal. Hardened contact surface to extend wear life.
E	**Transfer Conveyor** (Silo Distribution)	See Page 52	Hot/sticky asphalt mix causes problems with material ingress and fatigue stresses due to short conveyor span/high cycle.	Roller & Steel Bushed type Engineering Class Chains	4-6" Pitch Asphalt specific roller & steel bushed Engineering Class Chains. Commonly bolted attachments over two strands with reinforcements for added strength.	Split style sprockets for easy installation and replacement. Heat treated for wear resistance. Split to bolt hubs also available for added convenience. Smart Tooth® Optional



Rotary Drum Dryer

Challenge	Solution	Typical Size, Range & Type
High vibration & shock load, exposed to weather and elements.	Premium North American manufactured Engineering Class Drive chains designed with the use of high quality, locally sourced materials. Alloy constructions with specific hardening specifications ensure an optimal performance and resistance to elongation and fatigue stresses.	US1245, US1353, US3514, US4522, US5031, US5035, US6042, US6566 & US7080
	Premium sprockets manufactured in one of the three Tsubaki locations in Canada (Mississauga, ON, Edmonton, AB or Maple Ridge, BC). Locally sourced material with specific heat treatment ensures resistance to tooth wear. Carbon steel as a standard and alloy materials optional depending on the severity of application/customer preference.	12 to 20 Tooth Drive Sprockets with Fixed bores, Taper Lock Bushings, or POWER-LOCK® Keyless Locking Device 80-120 Tooth Driven (Drum) Sprockets with Segmental Bolt on arrangements. Mounting brackets/blocks available complete with the sprocket.



Full Wrap Style Drum Drive

Cradle Style Drum Drive

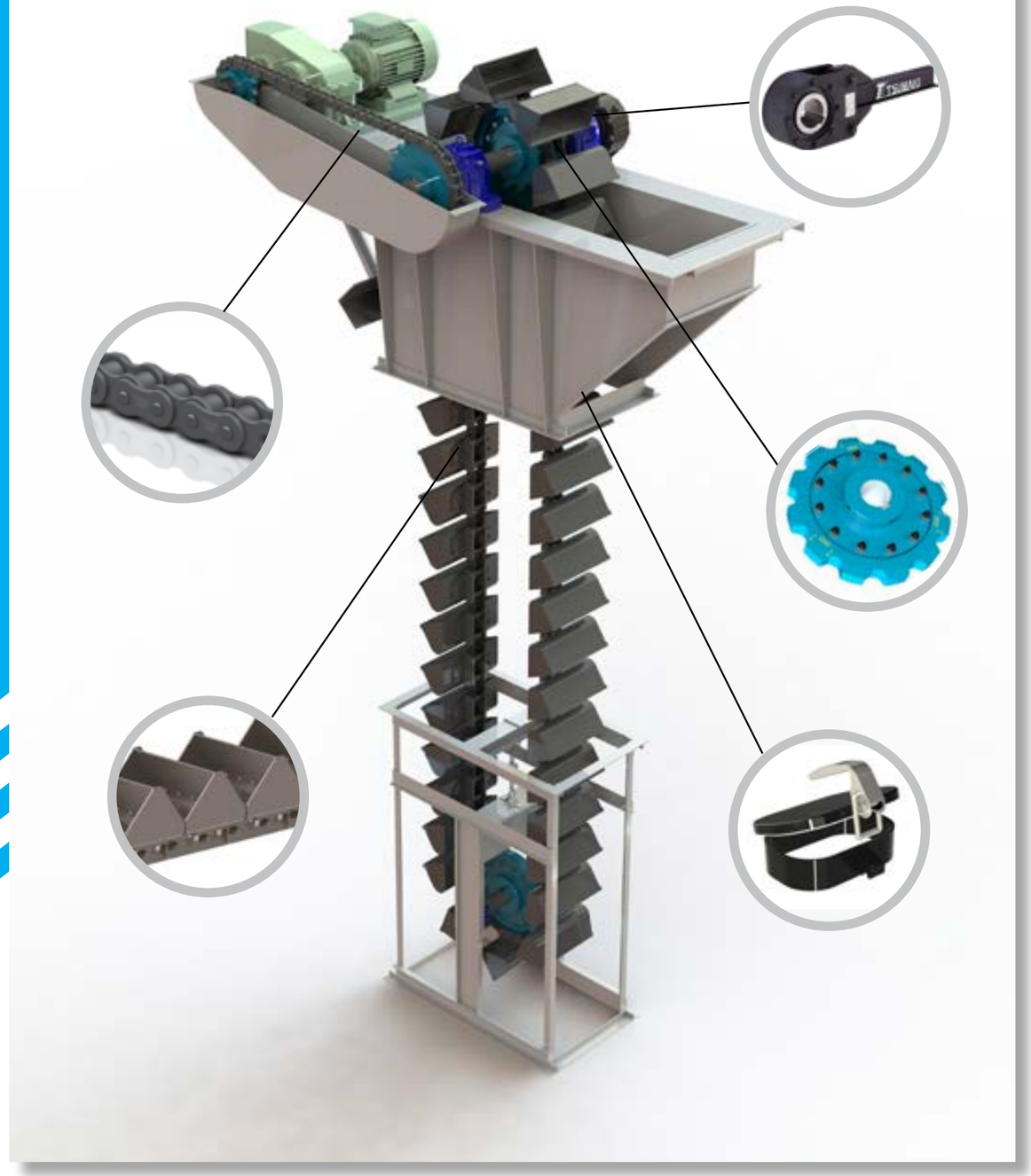
Bucket Assemblies

Challenge	Solution	Typical Size, Range & Type
High vibration, high speed elevator applications are prone to fatigue and mechanical wear. Pin cavitation and bushing wear, along with tooth failure on head-sprockets are common problems. Rapid elongation leads to premature chain failure if not monitored frequently.	High quality elevator chains supplied with buckets pre-assembled by Tsubaki. Special manufacturing processes & heat treatment of pins, bushings and rollers ensure resistance to wear in these extreme applications.	856 K-24 2L WorkHorse® 5856 K-24 2L or 3L WorkHorse® 5856 K-2 2L or 3L WorkHorse® 5856 K-35 2L or 3L
	Premium sprockets manufactured in one of the three Tsubaki locations in Canada (Mississauga, ON, Edmonton, AB or Maple Ridge, BC). Locally sourced material with specific heat treatment ensures resistance to tooth wear. Three-piece segmental bolt-on style arrangements with solid or split hubs are common due to simple installation. Tail sprockets (or traction wheels) are often supplied split or segmental.	8 to 16 tooth sprocket arrangements with fixed key bores are common. Sprocket or traction wheel tail shaft units, usually same tooth count/ diameter of head shaft. Floating idlers also common on tail shafts. Note: Full shaft assemblies available!

Tsubaki Elevator Buckets

Tsubaki maintains a market leading portfolio of cast and fabricated buckets. Standard designs are available to fit virtually any OEM system with custom options available upon request. Metallic buckets typically produced in Carbon Steel, AR or Ductile Iron. Full redesign and engineering resources are available to assist with proper selection and application optimization. Tsubaki will securely fasten buckets to the chain at the factory to ensure proper fitment, saving installation time and money in the field. Assemblies are commonly shipped in 10 foot sections but custom options are available upon request.

Check pages 54-55 for more information



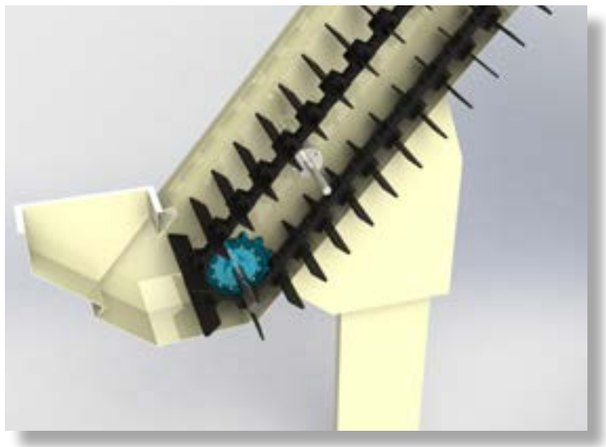
Transfer Conveyor

Mid Stage

Challenge	Solution	Typical Size, Range & Type
Dry, high heat application. Abrasive debris can wear down components rapidly. Chains tend to elongate with excessive pin wear and rapid tooth wear is often the problem.	High quality Asphalt specific conveyor chains supplied with flights and attachments pre-assembled by Tsubaki. Special manufacturing processes & heat treatment of pins, bushings and rollers ensure resistance to wear in these extreme applications.	U3952 K2 3L U3433 K1/K2 4L U3945 K2 2L U3940 K2 3L U2858 MM1 2L
	Premium sprockets manufactured in one of the three Tsubaki locations in Canada (Mississauga, ON, Edmonton, AB or Maple Ridge, BC). Locally sourced material with specific heat treatment ensures resistance to tooth wear. Segmental teeth or two-piece split design allows for easy removal and installation. Alloy options available.	Commonly 8 to 16 Tooth Sprockets with Fixed bores, Taper Lock Bushings, or POWER-LOCK® Keyless Locking Device. Sprocket or traction wheel tail shaft units, usually same tooth count/diameter of head shaft. Floating idlers also common on tail shafts. Note: Full shaft assemblies available!

Large Incline Scraper Conveyor

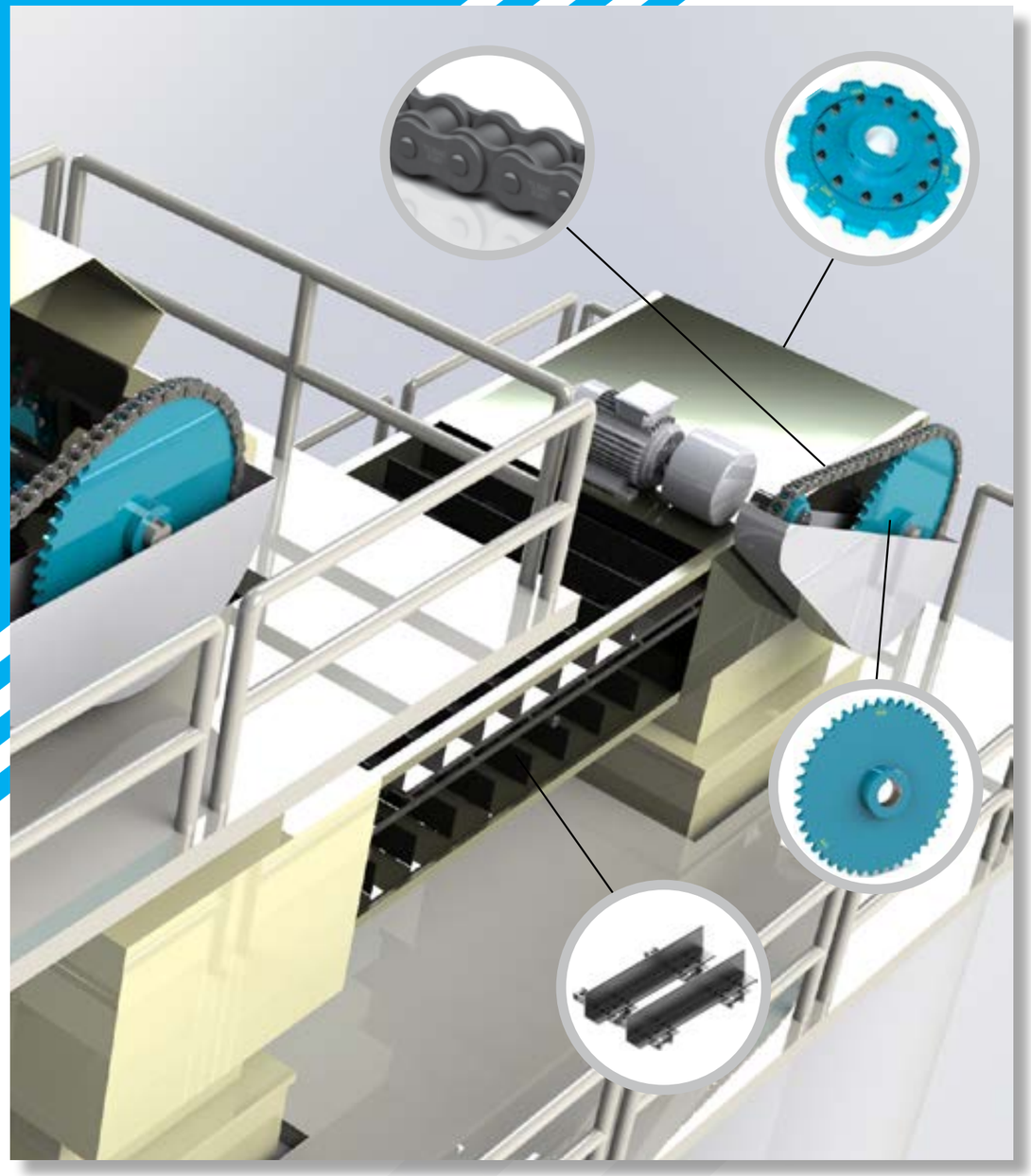
Challenge	Solution	Typical Size, Range & Type
High temperatures, high load & sticky final product. Shock loading & fatigue are often the biggest factors affecting chain life. Application demands long chain & sprocket life due to labour-intensive and high cost of replacement.	Specially designed Engineering Class roller conveyor chains with welded or bolted scraper flights. Large rollers, wide profile and appropriately sized sidebar thickness ensure a high resistance to cyclical fatigue and bearing loads. With the rigorous nature of this application, proprietary materials & heat treatment ensure wear resistance and long chain life.	U3940 K2 3L U2858 MM1 2L U9856 K44 2L U9856 MM-1 2L U9856 MM-1 (9° Slot Angle) 2L
	Premium sprockets manufactured in one of the three Tsubaki locations in Canada (Mississauga, ON, Edmonton, AB or Maple Ridge, BC). Locally sourced material with specific heat treatment ensures resistance to tooth wear. Three-piece segmental bolt-on style arrangements with solid or split hubs are common due to simple installation. Tail sprockets (or traction wheels) are often supplied split or segmental.	8 to 16 tooth sprocket arrangements with fixed key bores are common. Sprocket or traction wheel tail shaft units, usually same tooth count/ diameter of head shaft. Floating idlers also common on tail shafts. Note: Full shaft assemblies available!



Transfer Conveyor

Silo Distribution

Challenge	Solution	Typical Size, Range & Type
Hot and sticky asphalt mix causes problems with material ingress and fatigue stresses due to short conveyor span & high cycle.	High quality Asphalt specific conveyor chains supplied with flights and attachments pre-assembled by Tsubaki. Special manufacturing processes & heat treatment of pins, bushings and rollers ensure resistance to wear in these extreme applications.	U3952 K2 3L U3433 K1/K2 4L U3945 K2 2L U3940 K2 3L U2858 MM1 2L
	Premium sprockets manufactured in one of the three Tsubaki locations in Canada (Mississauga, ON, Edmonton, AB or Maple Ridge, BC). Locally sourced material with specific heat treatment ensures resistance to tooth wear. Removable/replacement teeth or two-piece split design allows for easy removal and installation. Alloy options available.	Commonly 8 to 16 Tooth Drive Sprockets with Fixed bores, Taper Lock Bushings, or POWER-LOCK® Keyless Locking Device. Sprocket or traction wheel tail shaft units, usually same tooth count/diameter of head shaft. Floating idlers also common on tail shafts. Note: Full shaft assemblies available!



Bucket Elevator Critical Data

Surveyor | Title/Company

Date

BUCKET INFORMATION

Configuration
(i.e. single-strand centrifugal discharge)

Housing Dimensions
(i.e. 60" x 32")

Shaft Center Distance

PRODUCT

Product Conveyed

Bulk Density (lbs./cu. ft.)

Moisture Content (%)

Max Temp. (%)

SPEED REDUCTION

Reduction

Output Shaft Diameter

MOTOR

HP | RMP

Volts | Phase

Running Load Amps

Efficiency

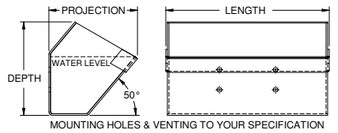
Bucket Elevator Critical Data

NOTES

Chain Attachments Utilized with Spacing

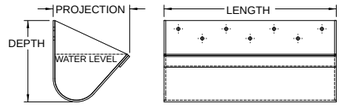
Bucket Style, Dimensions and Weight
(i.e. AC24, 10 x 11, 0.25" Thick, 50 lbs., with lip)

AA



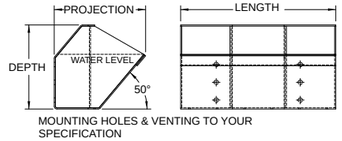
MOUNTING HOLES & VENTING TO YOUR SPECIFICATION

AC



MOUNTING HOLES & VENTING TO YOUR SPECIFICATION

ACS



MOUNTING HOLES & VENTING TO YOUR SPECIFICATION

Feeding Method
(i.e. uniform via chain drag conveyor)

Maximum Capacity of Preceding System
(if known)

Take-up Assembly
(i.e. internal gravity, roughly 1,500 lbs.)

Start & Stop Frequency per Day

Hours of Operation per Day

Scraper Conveyor Critical Data

Surveyor | Title/Company

Date

CONVEYOR INFORMATION

Conveyor Name

Conveyor Manufacturer

Model Number

Serial Number

MFG Drawing Number

MOTOR

HP | RMP

Volts | Phase

Running Load Amps

Efficiency

CHAIN INFORMATION

Chain Length (in feet)

Base Chain Type
(i.e. U-3952, U-9856, etc.)

Shaft Centers

Paddle Spacing

Number of Strands of Chain

Multi-Strands Centers

Flight Material	Carbon Steel	High-Abrasion Resistant
Pin Style	Rivet	Cotter
Paddle Style	Angle	Flat-Plate

TROUGH DIMENSIONS

Trough Width (in inches)

Trough Height (in inches)

GEARBOX

Reduction

Output Shaft Diameter

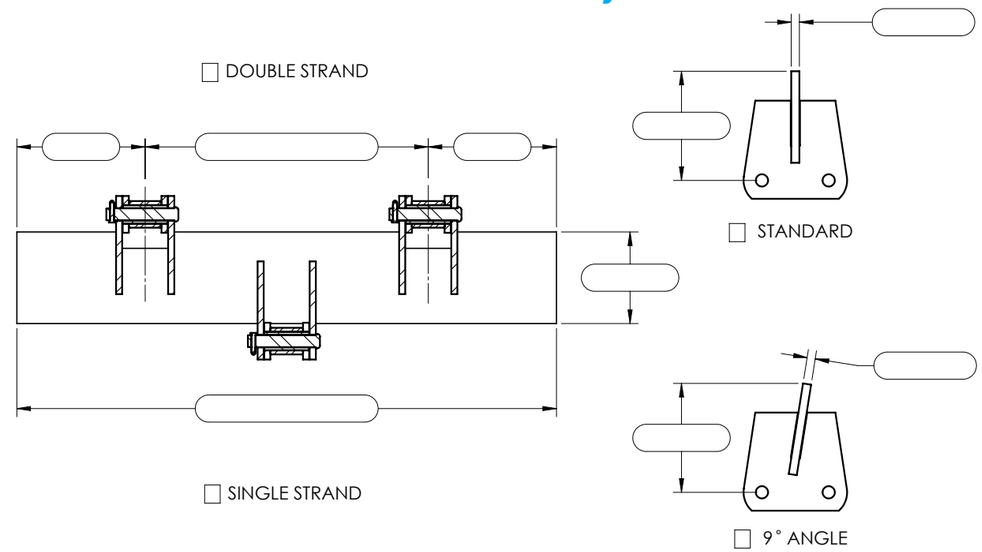
Secondary Reduction
(if present)

NOTES

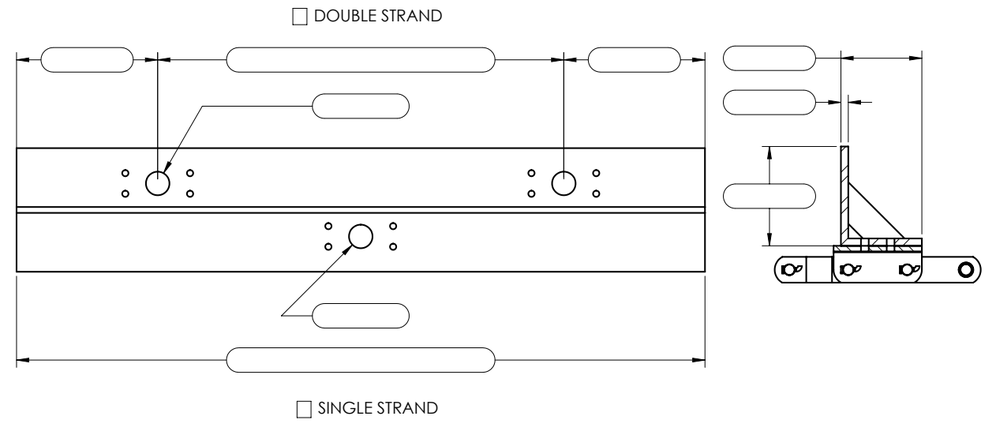
Technical Evalution

Scraper Conveyor Critical Data

MM1 Slotted Attachment Welded Plate Style



K-Type Bolted Angled Steel Type



Tsubaki Environmental Plan

We are applying the collective expertise of the TSUBAKI Group to an Environmental Action Plan that takes a global perspective.

Certification for Our Environmental Management System

- All Tsubaki Group workplaces in North America are accredited with ISO 14001 certification, and a growing number of Tsubaki workplaces worldwide are acquiring them as well.

Ongoing Efforts to Reduce Our Environment Impact

- Reducing CO2 emissions resulted from our energy consumption.
- Recycling and waste-reduction initiatives.

With its focus on manufacturing, Tsubaki takes a unique approach to the challenges of environmental conservation.

Initiatives Targeting Eco-Friendly Products

- Adoption of green procurement of outsourcing and processing materials/consumables.
- Eliminating hazardous chemicals from our products.

Environmental Laws and Regulations

- Tsubaki management systems ensures strict full compliance with local laws and regulations.

Environmental Training & Other Initiatives

- Implementing proper training initiatives and employee collaboration to enhance our commitment to the environment.

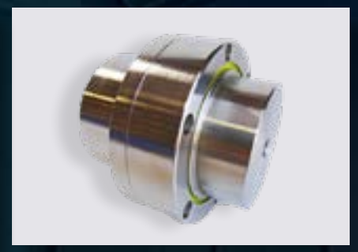
Premium Flexible Couplings

Tsubaki is excited to announce the purchase of ATR Sales Inc. that has been manufacturing the premium flexible couplings to the power transmission industry for more than 36 years.

ATRA-FLEX® premium flexible couplings are a great fit to Tsubaki's extensive product catalogue. Made in USA, they provide customers increased productivity and profitability by offering high-quality solutions for rotating equipment.

- Made in USA: more efficiency and reliability.
- Excellent choice for Standardization: Replace all styles of couplings in high and low torque applications (accepts misalignment up to 2 degrees).
- Temperature Range: from -60°F to 250°F with high temperature inserts available up to 350 °F for high resistance to chemicals and weather.
- Absorbs and dampens torsional vibration shock extending the life of your driven equipment.
- Lower total cost of ownership: Save money and downtime with the ease of replacement of inserts.

For all other Tsubaki power transmission products, visit www.tsubaki.ca



ATRA-FLEX®

Innovation in Motion

TSUBAKI™

PROBLEM SOLVING PRODUCTS

Backstop Cam Clutch

Torque Limiter

Power-Lock

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Shock Relay

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Edmonton, AB T6E 5L7
Toll free: 800.661.8811

Vancouver Manufacturing Plant
9475 288 Street
Maple Ridge, BC V2W 1L1
Tel: 604.462.7311

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