

Stainless Steel Roller Chain

U.S. Tsubaki offers the most complete line of stainless steel roller chain in the industry. In fact, with U.S. Tsubaki stainless steel roller chain, plus our stainless steel attachments, sprockets, and POWER-LOCK®, you can create a reliable stainless steel system that withstands extreme temperatures and corrosive conditions.

Three Kinds of Stainless Steel to Meet Every Application

U.S. Tsubaki has four different types of stainless steel roller chains in stock for immediate delivery. You get greater selection and improved performance. Each type has unique characteristics to address your specific needs.

304 SS Series

SS Series chains are made completely of 304 stainless steel. They offer excellent resistance to corrosion and extreme temperatures. The 304 SS Series is ideal for environments that require tougher resistance to acids and alkali.

316 NS Series

The 316 NS Series provides maximum corrosion resistance and temperature resistance, with virtually no magnetic permeability. These are critical factors in many applications involving electronics or the production of steel.

600 AS Series

AS Series chain was developed for the most demanding applications. With precipitation-hardened round parts, the 600 AS Series combines high load capacity and high corrosion resistance. Of all the stainless steel chains offered by U.S. Tsubaki, AS Series has the highest load capacity. Our standard attachment chains supplied from stock are manufactured to this specification.



BS/DIN Chain

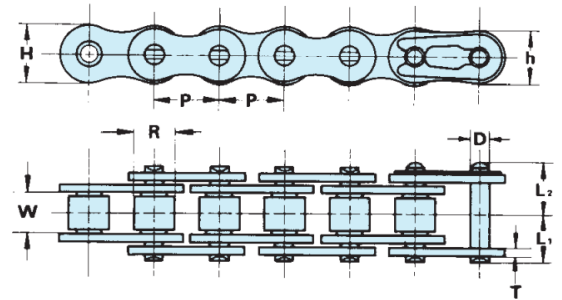
BS/DIN STAINLESS STEEL CHAIN

Chain No.	ISO BS/DIN No.	Pitch P	Roller Dia. R	Width Between Roller Link Plates W	Pin			Link Plate Height (Max.) H	Maximum Allowable Load (lbs)	Bearing Area (Nominal) Inch ²	Approx. Weight (lbs/ft)
					D	L ₁	L ₂				
RF06BSS*	06B	.375	.250	.225	.129	.255	.296	.325	57	.040	.26
RS08BSS	08B	.500	.335	.305	.175	.329	.395	.465	111	.078	.47
RS10BSS	10B	.625	.400	.380	.200	.370	.449	.579	148	.104	.64
RS12BSS	12B	.750	.475	.460	.225	.433	.520	.634	196	.138	.84
RS16BSS	16B	1.000	.625	.670	.326	.705	.783	.827	463	.326	1.82

Note:

*Flat shape link plate

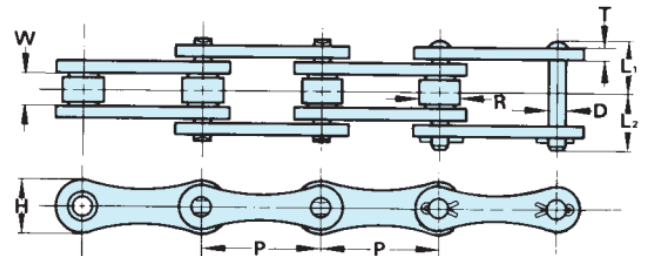
1. Stainless steel roller chains with over 1.00 inch pitch are available upon request.
2. Duplex and triplex are available.



RS Double Pitch Roller Chain

RS DOUBLE PITCH STAINLESS STEEL ROLLER CHAIN

Chain No.	Pitch P	Roller Dia. R	Width Between Roller Plates W	Pin			Link Plate		Maximum Allowable Load (lbs)	Approx. Weight (lbs/ft)	No. of Links per 10 ft
				D	L ₁	L ₂	T	H			
A2040SS	1.00	.313	.312	.156	.325	.380	.060	.472	99	.26	120
A2050SS	1.25	.400	.375	.200	.406	.469	.080	.591	154	.42	96
A2060SS	1.50	.469	.500	.234	.506	.600	.094	.709	231	.63	80
A2080SS	2.00	.625	.625	.312	.640	.758	.125	.906	397	1.03	60



RS Roller Chain

RS STAINLESS STEEL ROLLER CHAIN

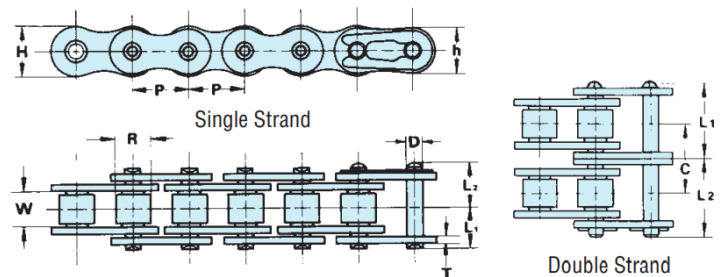
Specifications			Pitch P	Width Between Roller Plates W	Roller Dia. R	Link Plate			Pin Dia. D	Approx. Weight (lbs/ft)	Pin						Maximum Allowable Load (lbs)	
SS	NS	AS				T	H	h			SS NS			AS			SS•NS	AS
										L ₁	L ₂	L	L ₁	L ₂	L			
RS11SS*	-	-	.148	.072	.090	.015	.138	.138	.062	.04	.089	.124	-				11	
RS25SS	RS25NS	-	.250	.125	.130	.030	.230	.199	.091	.09	.150	.189	.208				26	
RS35SS	RS35NS	RS35AS*	.375	.188	.200	.050	.354	.307	.141	.22	.238	.281	.579	.238	.281	.579	59	91
RS40SS	RS40NS	RS40AS	.500	.313	.312	.060	.472	.409	.156	.41	.325	.392	.732	.325	.392	.732	99	150
RS50SS	RS50NS	RS50AS	.625	.375	.400	.080	.590	.512	.200	.68	.406	.469	.941	.406	.469	.941	154	231
RS60SS	RS60NS	RS60AS	.750	.500	.469	.094	.712	.614	.234	.94	.506	.600	1.157	.506	.600	1.157	231	346
RS80SS	RS80NS	RS80AS	1.000	.625	.625	.125	.949	.819	.312	1.65	.638	.768	1.525	.638	.768	1.535	397	596
RS100SS	-	RS100AS	1.250	.750	.750	.156	1.185	1.023	.375	2.70	.791	.909	1.831				573	860
RS120SS	-	-	1.500	1.000	.875	.187	1.425	1.228	.437	4.11	1.014	1.173	2.350				858	
RS140SS	-	-	1.750	1.000	1.000	.219	1.661	1.433	.500	5.31	1.108	1.297	2.606				1,034	
RS160SS	-	-	2.000	1.250	1.125	.250	1.897	1.638	.562	7.28	1.321	1.533	3.043				1,452	
RS180SS	-	-	2.250	1.406	1.406	.281	2.059	1.709	.687	9.02	1.419	1.671	3.342				1,918	
RS200SS	-	-	2.500	1.500	1.562	.312	2.374	2.047	.781	11.09	1.555	1.783	3.575				2,420	
RS240SS	-	-	3.000	1.875	1.875	.375	2.850	2.457	.937	16.43	1.870	2.272	4.433				3,520	

- Note:
 *Rollerless
 1. Clip type connecting links are provided with RS11-RS60, cottered type connecting links with RS80-RS240.
 For NS Series chain, however, cottered type connecting links are provided with RS35-RS80.

DOUBLE STRAND STAINLESS STEEL ROLLER CHAIN

Chain No.	Pitch P	Roller Dia. R	Width Between Roller Plates W	Pin			Link Plate			Maximum Allowable Load (lbs)	Approx. Weight (lbs/ft)
				D	L ₁	L ₂	T	H	C		
RS25SS-2*	.250	.130	.125	.0905	.276	.315	.030	.230	.252	48	.18
RS35SS-2*	.375	.200	.188	.141	.429	.469	.050	.354	.399	106	.46
RS40SS-2	.500	.312	.313	.156	.608	.675	.060	.472	.566	200	.85
RS50SS-2	.625	.400	.375	.200	.762	.833	.080	.591	.713	308	1.39
RS60SS-2	.750	.469	.500	.234	.955	1.053	.094	.713	.897	462	2.04
RS80SS-2	1.000	.625	.625	.312	1.217	1.335	.125	.949	1.153	794	3.54
RS100SS-2	1.250	.750	.750	.375	1.484	1.606	.156	1.185	1.408	1,150	5.26

- Note:
 *Rollerless
 1. AISI316 stainless steel chains are also available.
 2. When completely nonmagnetic stainless steel (NS Series) is required, please consult U.S. Tsubaki.
 Double strand stainless steel chains and attachment chains are available.



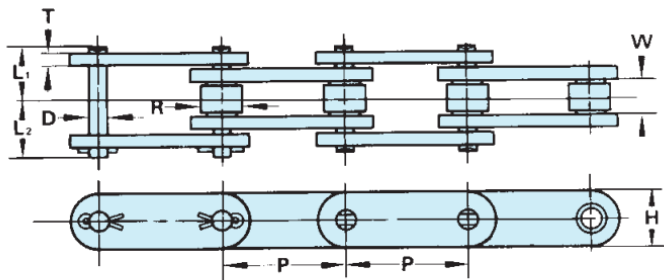
Conveyor Chain

SS		NS		AS	
Chain No.	Maximum Allowable Load (lbs)	Chain No.	Maximum Allowable Load (lbs)	Chain No.	Maximum Allowable Load (lbs)
C2040SS	99	C2040NS	99	C2040AS	150
C2050SS	154	C2050NS	154	C2050AS	231
C2060HSS	231	C2060HNS	231	C2060HAS	346
C2080HSS	397	C2080HNS	397	C2080HAS	596
C2100HSS	573				
C2120HSS	858				
C2160HSS	1,452				

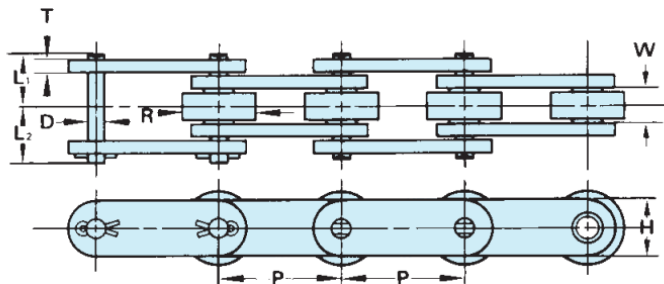
1. C2040-C2060H are provided with clip type connecting links, C2080H-C2160H with cottered type. All other links are riveted.

BASE CHAIN DIMENSIONS

Chain No.	Pitch P	Width Between Roller Link Plates W	Roller Dia.		Pin		Link Plate			Approximate Weight (lbs/ft)	
			(S) Roller R ₁	(R) Roller R ₂	L ₁	L ₂	Height H	Thickness T	"S" Roller	"R" Roller	
C2040	1.00	.312	.312	.625	.325	.392	.156	.472	.060	.34	.58
C2050	1.25	.375	.400	.750	.406	.472	.200	.591	.080	.58	.87
C2060H	1.50	.500	.469	.875	.573	.652	.234	.677	.125	1.01	1.47
C2080H	2.00	.625	.625	1.125	.720	.823	.312	.906	.156	1.62	2.37
C2100H	2.50	.750	.750	1.563	.878	.980	.375	1.126	.187	2.45	3.97
C2120H	3.00	1.000	.875	1.750	1.104	1.254	.437	1.354	.219	3.01	5.65
C2160H	4.00	1.250	1.125	2.250	1.405	1.618	.563	1.701	.281	6.60	9.78



Standard Roller Type



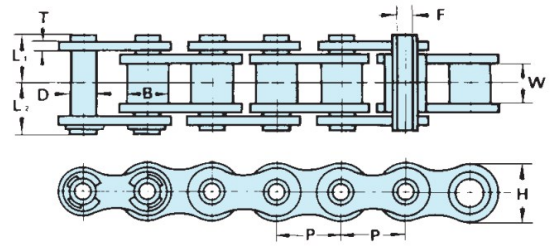
Oversize Roller Type



Hollow Pin Chain

HOLLOW PIN STAINLESS STEEL CHAIN

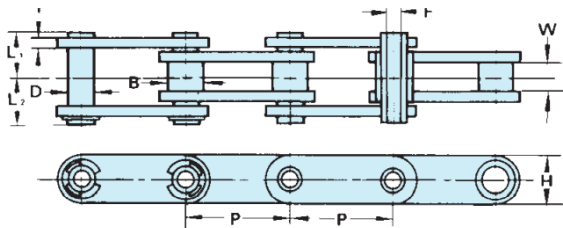
Standard attachments are available for Hollow Pin Chain in both single and double pitch types. Attachments or cross rods may be inserted into any link without disassembling the chain.



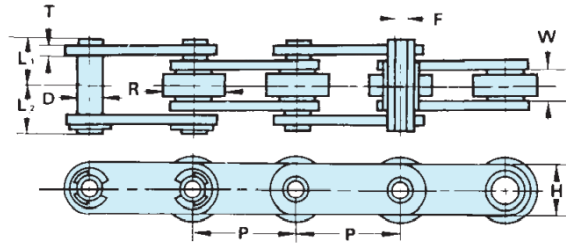
RS Type (single pitch type)

RS TYPE

Chain No.	Pitch P	Width Between Inner Link Plates W	Bushing Dia. B	Pin				Link Plate		Maximum Allowable Load (lbs)	Approx. Weight (lbs/ft)
				D	F	L ₁	L ₂	T	H		
RS40HP	.500	.312	.312	.224	.157	.315	.374	.060	.472	99	.36
RS50HP	.625	.375	.400	.284	.202	.396	.459	.080	.591	154	.58
RS60HP	.750	.500	.469	.330	.236	.494	.561	.094	.713	231	.85
RS80HP	1.000	.625	.625	.448	.316	.640	.701	.125	.949	397	1.60



Double Pitch Type – standard “S” roller type



Double Pitch Type – oversize “R” roller type

DOUBLE PITCH TYPE

Chain No.	Pitch P	Width Between Inner Link Plates W	Bushing Dia. B	Roller Dia. R	Pin				Link Plate		Maximum Allowable Load (lbs)	Approx. Weight (lbs/ft)
					D	F	L ₁	L ₂	T	H		
STANDARD ROLLER												
C2040HP	1.00	.312	.312	-	.224	.157	.315	.374	.059	.472	99	.31
C2050HP	1.25	.375	.400	-	.284	.202	.396	.459	.079	.591	154	.50
C2060HP	1.50	.500	.469	-	.330	.236	.494	.561	.094	.677	231	.93
C2080HP	2.00	.625	.625	-	.448	.316	.640	.701	.126	.906	397	1.21
OVERSIZED ROLLER												
C2042HP	1.00	.312	-	.625	.224	.157	.315	.374	.059	.472	99	.55
C2052HP	1.25	.375	-	.750	.284	.202	.396	.459	.079	.591	154	.81
C2062HP	1.50	.500	-	.875	.330	.236	.494	.561	.094	.677	231	1.38
C2082HP	2.00	.625	-	1.125	.448	.316	.640	.701	.126	.906	397	1.88

Stainless Steel Attachments

Engineered for Extended Wear Life

Stainless steel attachment chains from U.S. Tsubaki are made using high-strength AS 600 Series stainless steel with SS 304 attachments to keep your lines moving. AS Series has excellent resistance to corrosion from acid, alkali, and water, and works in temperatures from -40°F to 750°F.

We offer a wide variety of standard attachments, including:

- bent, straight, or lug types
- on one or both sides
- with extended pins
- wide contour

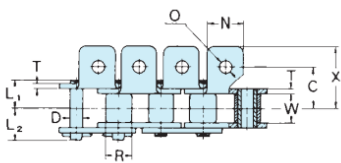


Other configurations are available on a made-to-order basis.

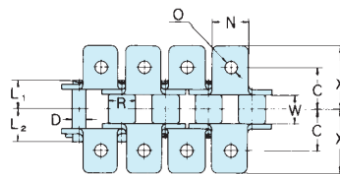
We maintain a large inventory of stainless steel chains and attachments, assembled and ready for quick delivery.

RS STAINLESS STEEL ATTACHMENT DIMENSIONS

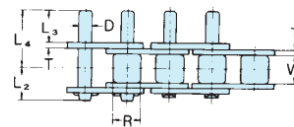
Chain No.	Availability			Attachment										Additional Weight per Attachment (lbs/att)		
	SS	NS	AS	C	C ₁	N	O	S	X	X ₂	X _S	L ₃	L ₄	A-SA Att	K-SK Att	D-3 Att
RS25	●	●		.281	.313	.220	.134	.187	.421	.421	.459	-	-	.0007	.001	-
RS35	●	●	●	.375	.374	.311	.134	.250	.563	.563	.572	.375	.579	.0018	.003	.002
RS40	●	●	●	.500	.500	.374	.142	.315	.701	.701	.685	.375	.661	.0044	.008	.002
RS50	●	●	●	.625	.625	.500	.205	.406	.921	.921	.907	.469	.827	.0066	.013	.004
RS60	●	●	●	.750	.720	.626	.205	.469	1.111	1.110	1.057	.563	1.018	.0154	.030	.006
RS80	●	●	●	1.000	.969	.752	.268	.626	1.441	1.441	1.396	.752	1.335	.0287	.572	.015
RS100	●		●	1.250	1.252	1.000	.343	.780	1.768	1.768	1.732	.937	1.644	.0572	.114	.026
RS120	●			1.500	1.437	1.126	.406	.906	2.197	2.016	2.081	1.126	2.024	.1012	.202	.044
RS140	●			1.750	1.750	1.375	.469	1.126	2.484	2.283	2.500	1.311	2.264	.1672	.334	.066
RS160	●			2.000	2.000	1.500	.563	1.252	2.827	2.598	2.750	1.500	2.653	.2332	.466	.099



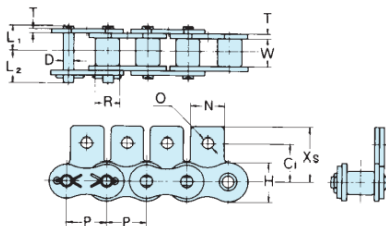
A-1 Attachment



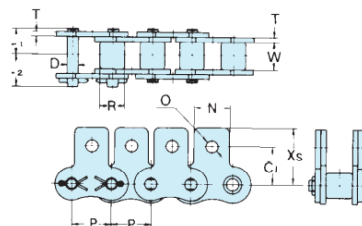
K-1 Attachment



D-3 Attachment



SA-1 Attachment



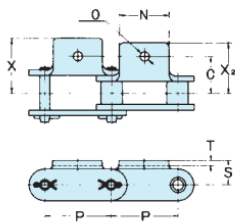
SK-1 Attachment

- Connecting Link
Clip type = RS25 ~ RS60
Cottered = RS80 ~ RS 160
- X and X₂ Dimensions
For RS25 ~ RS100; X = X₂
where X is pin link width and X₂ is the roller link attachment width.
- Attachment Drawings Spacing
Attachment drawings are shown with attachments at every link.

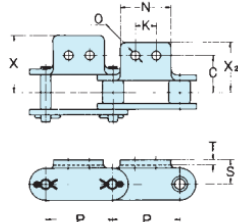
DOUBLE PITCH STAINLESS STEEL ATTACHMENT DIMENSIONS

Chain No.	Availability			Pitch P	Attachment								
	SS	NS	AS		C	C ₁	C ₂	K	N	O	O ₁	S	T
C2040	●	●	●	1.00	.500	.437	.535	.374	.752	.142	.205	.358	.060
C2050	●	●	●	1.25	.626	.563	.626	.469	.937	.205	.268	.437	.080
C2060H	●	●	●	1.50	.844	.689	.752	.563	1.126	.205	.343	.579	.125
C2080H	●	●	●	2.00	1.094	.874	1.000	.752	1.500	.268	.406	.752	.156
C2100H	●			2.50	1.313	1.126	1.252	.937	1.874	.343	.563	.921	.197
C2120H	●			3.00	1.563	1.311	1.469	1.126	2.252	.386	.579	1.094	.236
C2160H	●			4.00	2.063	1.752	2.000	1.500	3.000	.709	.866	1.437	.315

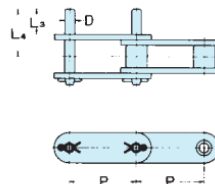
Chain No.	Availability			Attachment							Additional Weight per Attachment (lbs/att)		
	SS	NS	AS	X	X ₂	X _S	D	L ₃	L	G	A-SA Att	K-SK Att	D-3 Att
C2040	●	●	●	.760	.693	.780	.156	.374	.663	.161	.007	.013	.002
C2050	●	●	●	.953	.866	.969	.200	.469	.833	.201	.013	.026	.004
C2060H	●	●	●	1.240	1.110	1.205	.234	.563	1.083	.240	.037	.075	.007
C2080H	●	●	●	1.602	1.441	1.594	.312	.752	1.401	.319	.070	.141	.015
C2100H	●			1.965	1.767	1.984	.375	.937	1.687	.398	.139	.277	.026
C2120H	●			2.425	2.173	2.361	-	-	-	-	.235	.471	-
C2160H	●			3.163	2.820	3.093	-	-	-	-	.499	.999	-



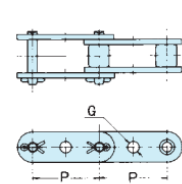
A-1 Attachment



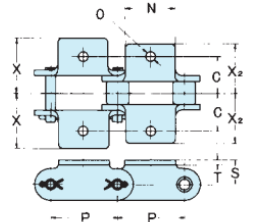
A-2 Attachment



D-3 Attachment

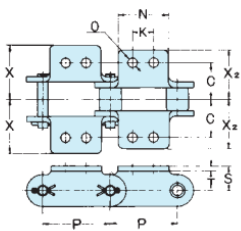


GK-1 Attachment

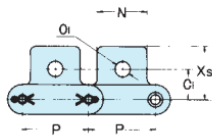


K-1 Attachment

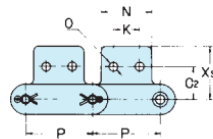
(For NP chain, the pin end (L₃) will be slightly wider than the pin center: dimension D)



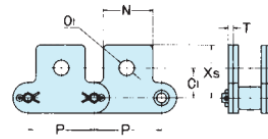
K-2 Attachment



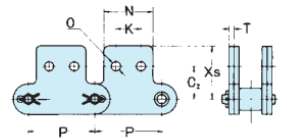
SA-1 Attachment



SA-2 Attachment



SK-1 Attachment



SK-2 Attachment

- Chain diagrams are drawn with S-rollers although R-rollers are also available with the same attachment dimensions. Attachments are shown at every link.
- C2040-C2060H connecting links are clip type; C2080H-C2160H are cottered type, GK-1 attachment connecting links are cottered type.
- All links other than connecting links, with or without attachments, are riveted type.

MATERIAL OF COMPONENT PARTS

Chain Series	Link Plate	Pin	Bushing	Roller
304 (SS)	AISI304	AISI304	AISI304	AISI304
316 (NS)	AISI316	AISI316	AISI316	AISI316
600 (AS)	AISI304	600 Series HT*	600 Series HT*	600 Series HT*

*PH: Precipitation-Hardened

600 Series includes 17-4PH, 17-7PH, 17-8PH and 13-7PH. Each has comparable corrosion resistance.

†On double pitch oversized rollers, the roller material will be AISI304.

PERFORMANCE OF ANTI-CORROSIVE CHAINS

Chain Series	Corrosion Resistance	Temperature Resistance	Magnetism	Wear Resistance
304 (SS)	Good for general acid, alkali and water	-40°F to 750°F (Never use below -270°F or over 1300°F)	Slightly magnetic due to cold forming of parts	Fair
316 (NS)	Superior to SS and AS	-40°F to 750°F (Never use below -420°F or over 1500°F)	Non-magnetic	Fair
600 (AS)	Slightly less than above	-40°F to 750°F (Never use below -40°F or over 930°F)	Magnetic	Very good

SERVICE FACTOR

Type of Impact	Service Factor
Smooth transmission	1.0
Transmission with some impact	1.3
Transmission with large impact	1.5

SPEED COEFFICIENT

Chain Speed	Speed Coefficient
0 to 50 ft/min	1.0
50 to 100 ft/min	1.2
100 to 160 ft/min	1.4
160 to 230 ft/min	1.6

TEMPERATURE FACTOR

Temperature	SS Series	NS Series	AS Series
~-270°F	X	X	X
-270°F ~ -40°F	1.0	1.0	X
-40°F ~ -750°F	1.0	1.0	1.0
750°F ~ 930°F	1.2	1.0	1.8
930°F ~ 1,100°F	1.5	1.2	X
1,100°F ~ 1,300°F	1.8	1.5	X
1,300°F ~ 1,500°F	X	2.0	X
1,500°F ~	X	X	X

X means not suggested. Consult with U.S. Tsubaki.

*CS Series temperature range -4°F ~ 750°F

STAINLESS STEEL CHAIN SELECTION

General selection is based on bearing pressure between the pin and bushing. Anti-corrosive roller chains are normally intended to be used at slow speeds without lubrication. Chain selection should be made based on the bearing pressure shown below.

Chain Series	Maximum Allowable Bearing Pressure between Pin and Bushing	Maximum Suggested Operating Speed
304 (SS)	1,420 psi	230 ft/min
316 (NS)	1,420 psi	230 ft/min
600 (AS)	2,130 psi	230 ft/min

Chain selection can be made using the following formula:

$$\text{Max. Chain Tension} \times \text{Service Factor} \times \text{Speed Coefficient} \times \text{Temperature Factor} \leq \text{Maximum Allowable Load}$$

Maximum allowable load or maximum bearing pressure as shown above can be doubled only when chain is used in group 1 of the "Corrosion Resistance Guide" and properly lubricated. Vibrations arising from ultrasonic waves, etc., must also be taken into consideration.

MAXIMUM ALLOWABLE LOAD

Calculate the chain's maximum allowable load with this formula:

$$\text{Max. allowable bearing pressure} \times \text{Bearing area between pin and bushing} \times \text{Maximum allowable load}$$

Chain No.	SS Series	NS Series	AS Series
RS25	26	-	-
RS35	59	59	91
RS40	99	100	150
RS50	154	154	231
RS60	231	231	346
RS80	397	397	596
RS100	573	573	858

Note: All units are in pounds.

