

LEAF CHAIN

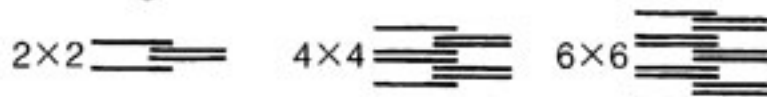
STRUCTURE

Leaf Chain commonly known as "Balance Chain" is the most simple of steel chains, consisting only of link plates and pins. This chain is subject to ANSI standard, and suitable for hanging, balancing or motion transmitting applications. Plates are connected by pins and hold the tension loaded onto the chain.

Pins are to resist the shear force from tension loading applied by the link plates and to withstand abrasion from the middle plate holes when chain articulates.

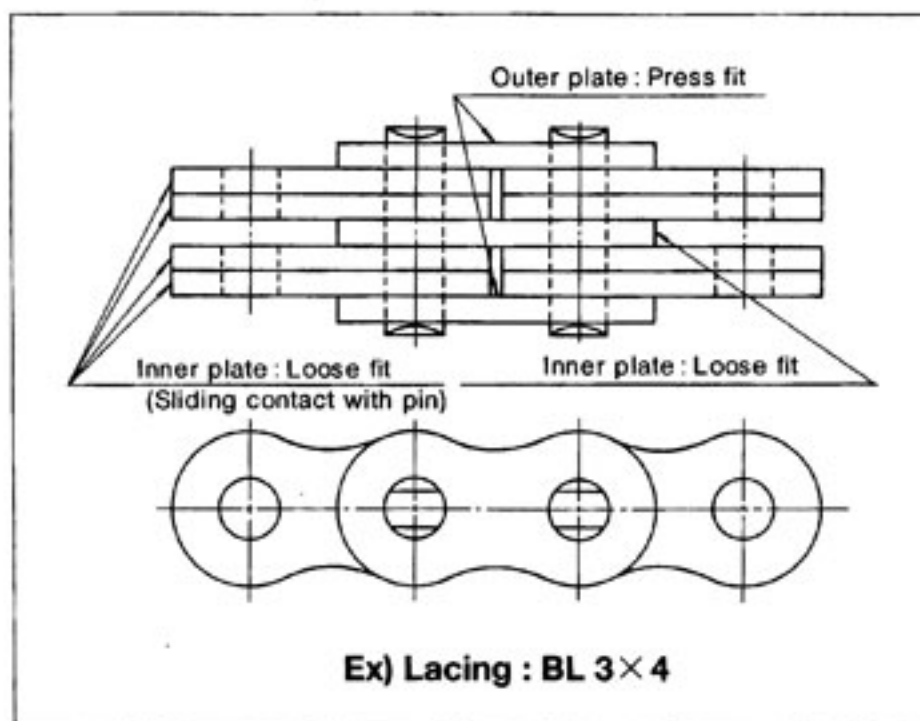
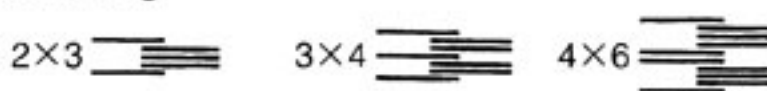
AL type: Plate configuration and thickness are the same as RS Roller Chain. Pin diameter is almost the same as RS Roller Chain.

Plate Lacing:



BL type: The outside dimensions of the plates are the same as RS Roller Chain inner plates of the same pitch. The plate thickness is the same as one size up RS Roller Chain.

Plate Lacing:



SELECTION

Chain selection shall be subject to the following procedure.

1. According to the application condition, the following factors shall be obtained.
 - Chain Speed (Operation Speed)
 - No. of operation per day
 - Working load (Including: Att. weight, inertia force, impact force)

When the chain speed exceeds 30m/min, and/or, the No. of operation exceeds 1,000 times/day, wear problems may happen. In these cases, RS Roller Chain is recommended.

2. Next, decide chain type.
 - BL type is recommended.
 - To adopt AL type shall be when the application has no impact load and wear problem. (No. of strokes doesn't exceed 100 times/day)
3. Chain size is decided by the following formula.

$$\text{Working load} \times \text{application coefficient} \times \text{safety factor} \leq \text{Minimum breaking load.}$$

(Table 1)
(Table 2)
4. If the chain is operated with a lesser safety factor than the one shown in Table 2, the pin may rotate and lead to chain breakage.

Even if the chain is operated with the proper safety factor, the lack of lubricant may cause pin rotation, so the chain must be periodically lubricated.
5. In case the safety factor and/or chain selection are subject to some official law and/or regulation, compare the outcomes of both the specified selection and this selection, and then select the safer.

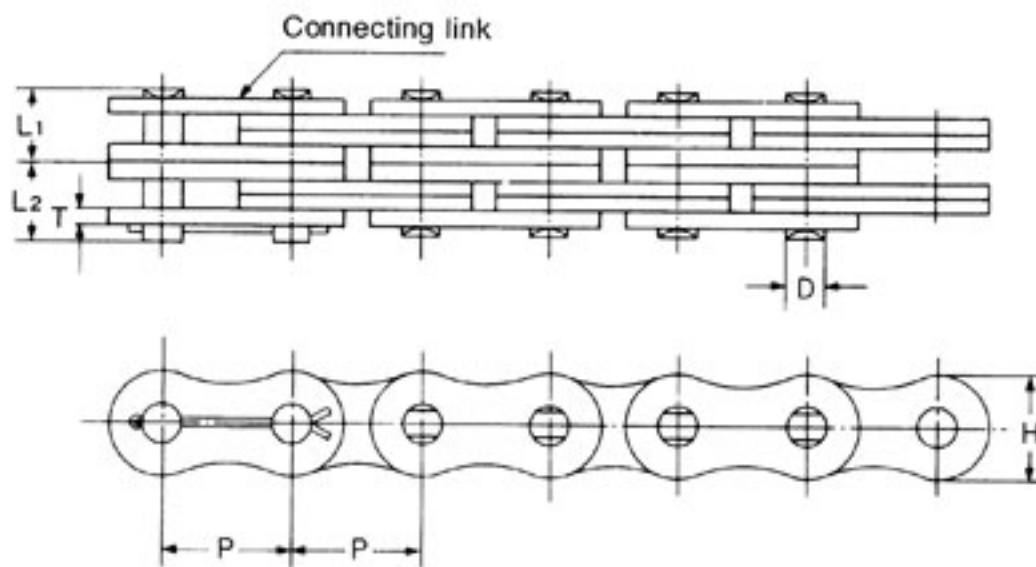
Table 1 Application coefficient

Kind of Impact	Application Example	Coefficiency
Smooth transmission	Start & stop are smooth. Load fluctuation is also soft. (for hanging balance weight, etc.)	1.0
Small Impact	Frequent start, stop, load fluctuation, reversing are required (for lift etc.)	1.3
Heavy Impact	Heavy & rapid start, stop, load fluctuation are required (Mining machine, Contraction machine etc.)	1.5

Table 2 Safety factor

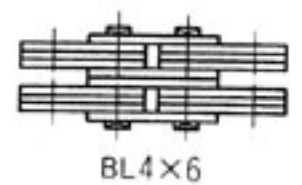
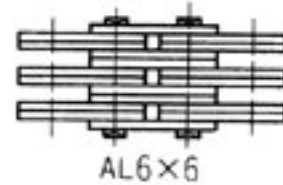
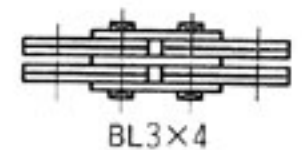
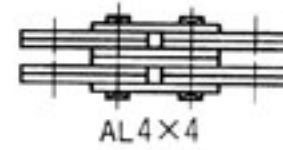
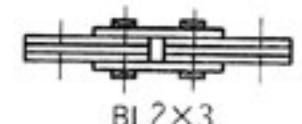
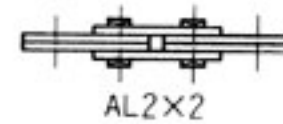
Plate Lacing	No. of strokes	Safety Factor	
		2x2, 3x4 2x3, 4x4	4x6 6x6
BL type	less than 1,000 times/day	more than 8	more than 9
AL type	less than 10 times/day	more than 8	more than 9
	less than 100 times/day	more than 11	more than 12

DIMENSIONS



Type : AL

Type : BL



Ex) Type AL 4×4

Type: AL

(Dimensions in mm)

Chain No.	pitch P	lacing	plate		D	pin		Min. Tensile Strength kN(kgf)	Approx. Weight mass kg/m
			H	T		L1	L2		
AL 422	12.70	2×2	10.4	1.5	3.97	4.20	5.30	16.7 (1,700)	0.38
AL 444		4×4				7.43	8.52	33.3 (3,400)	0.74
AL 466		6×6				10.65	11.75	50.0 (5,100)	1.10
AL 522	15.875	2×2	13.0	2.0	5.08	5.43	6.97	27.5 (2,800)	0.62
AL 544		4×4				9.68	11.22	54.9 (5,600)	1.22
AL 566		6×6				13.90	15.45	82.4 (8,400)	1.81
AL 622	19.05	2×2	15.6	2.4	5.94	6.33	8.22	38.2 (3,900)	0.87
AL 644		4×4				11.28	13.17	76.5 (7,800)	1.71
AL 666		6×6				16.23	18.12	114.7 (11,700)	2.54
AL 822	25.40	2×2	20.8	3.2	7.90	8.18	10.97	64.7 (6,600)	1.51
AL 844		4×4				14.90	17.70	129.5 (13,200)	2.98
AL 866		6×6				21.60	24.40	194.2 (19,800)	4.44
AL1022	31.75	2×2	26.0	4.0	9.48	10.03	13.22	98.1 (10,000)	2.69
AL1044		4×4				18.35	21.55	196.1 (20,000)	5.31
AL1066		6×6				26.65	29.85	294.2 (30,000)	7.93
AL1222	38.10	2×2	31.2	4.8	11.04	12.10	15.80	141.2 (14,400)	3.57
AL1244		4×4				22.00	25.70	282.4 (28,800)	7.07
AL1266		6×6				31.93	35.62	423.7 (43,200)	10.56
AL1444	44.45	4×4	36.4	5.6	12.64	25.65	30.15	372.7 (38,000)	10.34
AL1466		6×6				37.28	41.77	559 (57,000)	15.16
AL1644		4×4				29.03	34.02	471 (48,000)	12.98
AL1666	50.80	6×6	41.6	6.4	14.21	42.23	47.22	706 (72,000)	19.41

Type: BL

(Dimensions in mm)

Chain No.	pitch P	lacing	plate		D	pin		Min. Tensile Strength kN(kgf)	Approx. Weight mass kg/m
			H	T		L1	L2		
BL 423	12.70	2×3	12.0	2.0	5.08	6.48	8.02	23.5 (2,400)	0.84
BL 434		3×4				8.60	10.15	35.3 (3,600)	1.13
BL 446		4×6				11.80	13.35	47.1 (4,800)	1.65
BL 523	15.875	2×3	15.0	2.4	5.94	7.55	9.45	39.2 (4,000)	1.27
BL 534		3×4				10.05	11.95	58.8 (6,000)	1.69
BL 546		4×6				13.75	15.65	78.5 (8,000)	2.40
BL 623	19.05	2×3	18.1	3.2	7.90	9.88	12.67	63.7 (6,500)	2.04
BL 634		3×4				13.23	16.02	95.6 (9,750)	2.83
BL 646		4×6				18.25	21.05	127.5 (13,000)	4.01
BL 823	25.40	2×3	24.1	4.0	9.48	12.10	15.30	103 (10,500)	3.20
BL 834		3×4				16.28	19.47	155 (15,800)	4.44
BL 846		4×6				22.50	25.70	206 (21,000)	6.32
BL1023	31.75	2×3	30.1	4.8	11.04	14.45	18.15	141.2 (14,400)	4.69
BL1034		3×4				19.43	23.12	215.8 (22,000)	6.55
BL1046		4×6				26.85	30.55	282.4 (28,800)	9.29
BL1223	38.10	2×3	36.2	5.6	12.64	16.95	21.45	186.3 (19,000)	6.54
BL1234		3×4				22.75	27.25	299.1 (30,500)	9.10
BL1246		4×6				31.48	35.97	372.7 (38,000)	12.01
BL1423	44.45	2×3	42.2	6.4	14.21	19.10	24.10	235.4 (24,000)	9.06
BL1434		3×4				25.70	30.70	387.4 (39,500)	11.32
BL1446		4×6				35.63	40.62	471 (48,000)	18.00
BL1623	50.80	2×3	48.2	7.2	17.38	21.63	28.22	353 (36,000)	12.16
BL1634		3×4				29.20	35.80	554 (56,500)	16.95
BL1646		4×6				40.53	47.12	706 (72,000)	24.09