

# DBC Leaf Chain



DONG BO CHAIN IND.CO.,LTD.

## ■ Application

Leaf Chain consists of only Link Plates and Pins, and is generally used in lifting applications such as Lifting Machinery, Forklift Truck, Hydraulic & Pneumatic Jack Fittings, Counterweight Balancing for Sliding Doors, which move at slow speed.

## ■ Structure

### • Link Plate

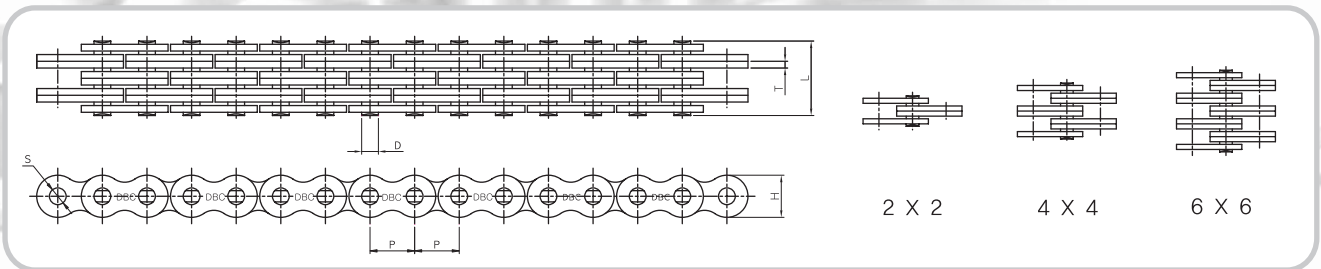
Plates are made from a special steel (Carbon Steel or Alloy Steel) which withstand a sudden loads and provide maximum resistance to breakage by special heat treatment.

### • Bearing Pin

Pins are manufactured from special steel (Alloy Steel) which has an excellent resistance to bending by case hardened treatment or thru hardened treatment, it can be additionally made by induction treatment to improve hardness.

### • AL Series (Light Duty, American Standard ANSI B29-8)

The Pin link plates have the contour, pitch and thickness of the pin link plates of corresponding ANSI standard roller chain.

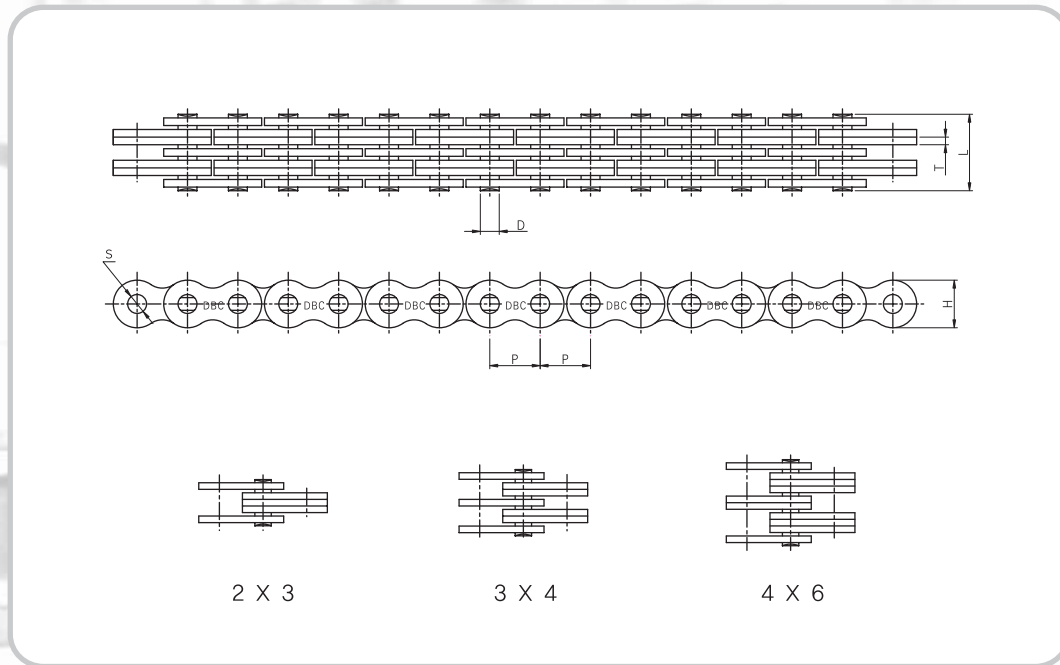


## Dimension for AL series

ANSI Chain NO.	Pitch <b>P</b> mm	Lacing	Tensile Strength (Min.) kgf	Plate		Pin		Approx. Weight kg/m
				Thickness <b>T</b> mm	Height <b>H</b> mm	Dia. <b>D</b> mm	Length <b>L</b> mm	
AL 422	12.7	2 x 2	1,500	1.5	10.4	3.98	8.1	0.38
AL 444		4 x 4	3,000				14.4	0.74
AL 466		6 x 6	4,500				20.6	1.10
AL 522	15.875	2 x 2	2,500	2.0	13.0	5.09	10.7	0.62
AL 544		4 x 4	5,000				19.3	1.22
AL 566		6 x 6	7,600				27.9	1.81
AL 622	19.05	2 x 2	3,400	2.4	15.6	5.96	12.9	0.87
AL 644		4 x 4	6,900				22.9	1.71
AL 666		6 x 6	10,000				33.1	2.54
AL 822	25.4	2 x 2	6,000	3.2	20.8	7.94	16.6	1.51
AL 844		4 x 4	12,000				29.8	2.98
AL 866		6 x 6	17,900				43.1	4.44
AL 1022	31.75	2 x 2	8,700	4.0	26.0	9.54	20.7	2.69
AL 1044		4 x 4	17,500				37.3	5.31
AL 1066		6 x 6	26,300				53.8	7.93
AL 1222	38.1	2 x 2	12,400	4.8	31.2	11.11	23.6	3.57
AL 1244		4 x 4	24,900				42.1	7.07
AL 1266		6 x 6	37,400				61.1	10.56
AL 1444	44.45	4 x 4	31,400	5.6	36.4	12.7	51.1	10.34
AL 1466		6 x 6	47,200				73.9	15.16
AL 1644	50.8	4 x 4	39,700	6.4	41.6	14.29	59.5	12.98
AL 1666		6 x 6	59,600				85.5	19.41

## • BL(LH) Series(Heavy Duty, American Standard B29-8)

Heavy-Duty Leaf Chain has the contour and pitch of the roller link plates of equivalent ANSI standard roller chain but the side plates have the thickness of the next larger pitch ANSI standard roller chain.



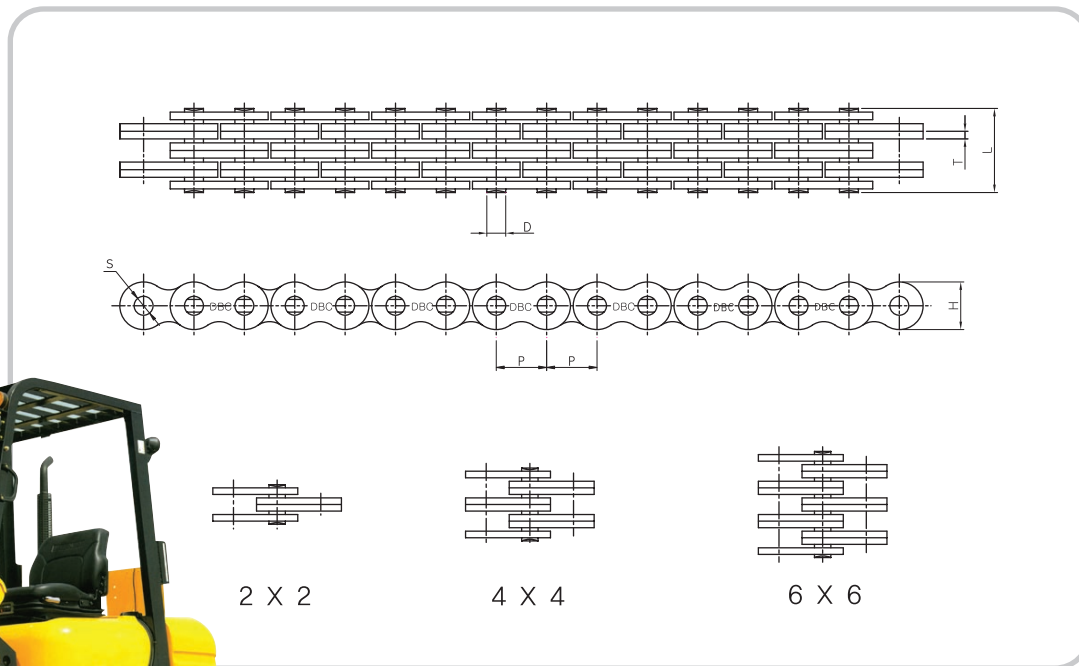
## Dimension for BL series

ANSI Chain NO.	ISO Chain NO.	Pitch <b>P</b> mm	Lacing	Tensile Strength (Min.) kgf	Plate		Pin Dia. <b>D</b> mm	Pin Length <b>L</b> mm	Approx. Weight kg/m
					Thickness <b>T</b> mm	Height <b>H</b> mm			
BL 423	LH 0823	12.7	2 x 3	2,300	2.0	12.0	5.09	12.8	0.84
BL 434	LH 0834		3 x 4	3,400				17.1	1.13
BL 446	LH 0846		4 x 6	4,500				23.6	1.65
BL 523	LH 1023	15.875	2 x 3	3,400	2.4	15.0	5.96	15.4	1.27
BL 534	LH 1034		3 x 4	5,000				20.3	1.69
BL 546	LH 1046		4 x 6	6,800				28.0	2.40
BL 623	LH 1223	19.05	2 x 3	5,000	3.2	18.1	7.94	20.0	2.04
BL 634	LH 1234		3 x 4	7,700				26.5	2.83
BL 646	LH 1246		4 x 6	10,000				36.4	4.01
BL 823	LH 1623	25.4	2 x 3	8,600	4.0	24.1	9.54	24.9	3.20
BL 834	LH 1634		3 x 4	13,200				33.2	4.44
BL 846	LH 1646		4 x 6	17,300				45.7	6.32
BL 1023	LH 2023	31.75	2 x 3	11,800	4.8	30.1	11.11	29.3	4.69
BL 1034	LH 2034		3 x 4	18,600				38.9	6.55
BL 1046	LH 2046		4 x 6	23,600				53.5	9.29
BL 1223	LH 2423	38.1	2 x 3	15,500	5.6	36.2	12.7	34.2	6.54
BL 1234	LH 2434		3 x 4	25,000				45.4	9.10
BL 1246	LH 2446		4 x 6	30,900				62.5	12.01
BL 1423	LH 2823	44.45	2 x 3	19,500	6.4	42.2	14.29	40.0	9.06
BL 1434	LH 2834		3 x 4	32,300				53.0	11.32
BL 1446	LH 2846		4 x 6	39,100				72.3	18.00
BL 1623	LH 3223	50.8	2 x 3	29,500	7.2	48.2	17.46	44.8	12.16
BL 1634	LH 3234		3 x 4	45,000				59.5	16.95
BL 1646	LH 3246		4 x 6	59,100				82.5	24.09
BL 2023	LH 4023	63.5	2 x 3	44,300	9.5	60.3	23.81	57.9	17.95
BL 2034	LH 4034		3 x 4	66,400				77.82	24.95
BL 2046	LH 4046		4 x 6	88,600				87.78	35.44



## • LL Series(Light Duty, ISO R606 Recommendation, European Standard)

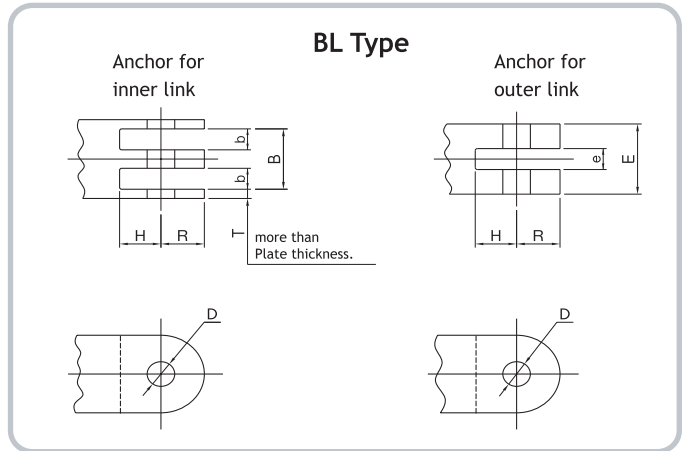
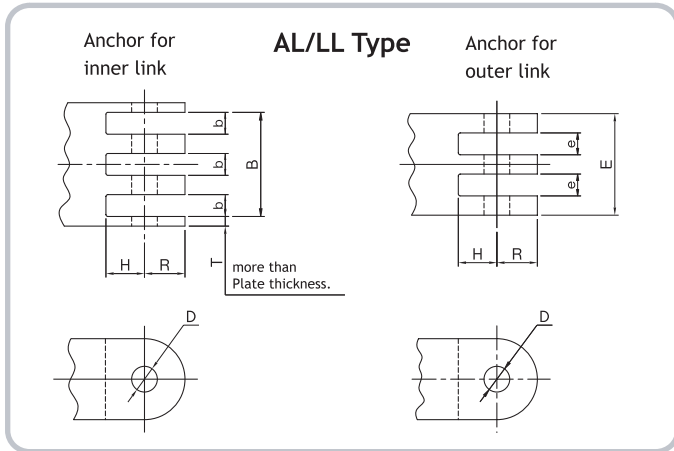
The Pin link plates have the contour, pitch and thickness of the pin link plates of corresponding European (BS type) standard roller chain.



### Dimension for LL series

ISO Chain NO.	Pitch	Lacing	Tensile Strength (Min.) kgf	Plate		Pin		Approx. Weight kg/m
	P mm			Thickness T mm	Height H mm	Dia. D mm	Length L mm	
LL 0822	12.7	2 x 2	1,820	1.55	10.6	4.45	7.6	0.41
LL 0844		4 x 4	3,170				13.0	0.69
LL 0866		6 x 6	4,540				18.2	0.97
LL 1022	15.875	2 x 2	2,260	1.65	13.07	5.08	9.2	0.59
LL 1044		4 x 4	4,540				15.8	1.13
LL 1066		6 x 6	6,800				22.1	1.67
LL 1222	19.05	2 x 2	2,950	1.90	16.0	5.72	10.4	0.64
LL 1244		4 x 4	5,890				17.9	1.26
LL 1266		6 x 6	8,840				25.4	1.88
LL 1622	25.4	2 x 2	5,910	3.2	21.0	8.28	17.2	1.52
LL 1644		4 x 4	11,830				29.6	2.98
LL 1666		6 x 6	17,740				42.4	4.44
LL 2022	31.75	2 x 2	9,690	3.7	26.4	10.19	20.1	2.33
LL 2044		4 x 4	19,370				33.8	4.56
LL 2066		6 x 6	29,060				50.1	6.79
LL 2422	38.1	2 x 2	17,340	5.2	33.4	14.63	28.4	4.47
LL 2444		4 x 4	34,670				46.3	8.67
LL 2466		6 x 6	52,010				66.4	12.87
LL 2822	44.45	2 x 2	20,390	6.0	37.8	15.09	32.2	5.10
LL 2844		4 x 4	40,790				56.4	9.90
LL 2866		6 x 6	61,180				80.6	14.60
LL 3222	50.8	2 x 2	26,510	6.45	42.0	17.81	33.2	6.2
LL 3244		4 x 4	53,030				57.4	12.3
LL 3266		6 x 6	79,540				81.6	18.3

• Dimensional Table for Chain Anchor



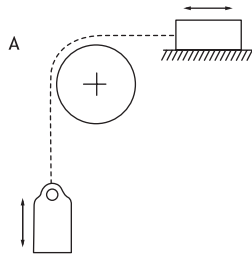
AL - Type	D	R <sub>max</sub>	H <sub>min</sub>	B <sup>+0.2</sup> <sub>0</sub>	b <sup>+0.1</sup> <sub>0</sub>	E <sup>0</sup> <sub>-0.2</sub>	e <sup>+0.1</sup> <sub>0</sub>
AL 422	4.02 <sup>+0.05</sup> <sub>0</sub>	6.3	6.0	-	3.4	3.1	-
AL 444				9.8		9.5	3.4
AL 466				16.2		15.9	3.4
AL 522	5.13 <sup>+0.05</sup> <sub>0</sub>	7.9	7.2	-	4.4	4.1	-
AL 544				12.9		12.6	4.4
AL 566				21.3		21.0	4.4
AL 622	6.00 <sup>+0.05</sup> <sub>0</sub>	9.5	9.0	-	5.1	4.8	-
AL 644				15.0		14.7	5.1
AL 666				24.8		24.5	5.1
AL 822	7.97 <sup>+0.1</sup> <sub>0</sub>	12.7	11.5	-	6.9	6.4	-
AL 844				20.3		19.8	6.9
AL 866				33.7		33.2	6.9
AL 1022	9.57 <sup>+0.1</sup> <sub>0</sub>	15.8	14.5	-	8.5	8.0	-
AL 1044				25.1		24.6	8.5
AL 1066				41.7		41.2	8.5
AL 1222	11.14 <sup>+0.1</sup> <sub>0</sub>	19.0	17.5	-	10.1	9.6	-
AL 1244				29.9		29.4	10.1
AL 1266				49.7		49.2	10.1
AL 1444	12.74 <sup>+0.1</sup> <sub>0</sub>	22.2	20.0	35.1	11.9	34.5	11.9
AL 1466				58.3		57.7	11.9
AL 1644	14.32 <sup>+0.1</sup> <sub>0</sub>	25.4	23.0	39.9	13.5	39.2	13.5
AL 1666				66.3		65.6	13.5

BL - Type	D	R <sub>max</sub>	H <sub>min</sub>	B <sup>+0.2</sup> <sub>0</sub>	b <sup>+0.1</sup> <sub>0</sub>	E <sup>0</sup> <sub>-0.2</sub>	e <sup>+0.1</sup> <sub>0</sub>
BL 423	5.13 <sup>+0.05</sup> <sub>0</sub>	6.3	6.3	-	6.5	6.2	-
BL 434				10.7	10.4	2.3	
BL 446				17.1	16.8	4.4	
BL 523	6.00 <sup>+0.05</sup> <sub>0</sub>	7.9	7.9	-	7.6	7.3	-
BL 534				12.5	12.2	2.6	
BL 546				19.9	19.6	5.1	
BL 623	7.97 <sup>+0.1</sup> <sub>0</sub>	9.5	9.5	-	10.3	9.8	-
BL 634				17.0	16.5	3.6	
BL 646				27.0	26.5	6.9	
BL 823	9.57 <sup>+0.1</sup> <sub>0</sub>	12.7	12.7	-	12.7	12.2	-
BL 834				21.0	20.5	4.4	
BL 846				33.4	32.9	8.5	
BL 1023	11.14 <sup>+0.1</sup> <sub>0</sub>	15.8	15.8	-	15.1	14.6	-
BL 1034				25.0	24.5	5.2	
BL 1046				39.8	39.3	10.1	
BL 1223	12.74 <sup>+0.1</sup> <sub>0</sub>	19.0	19.0	-	17.7	17.1	-
BL 1234				29.3	28.7	6.1	
BL 1246				46.7	46.1	11.9	
BL 1423	14.32 <sup>+0.1</sup> <sub>0</sub>	22.2	22.2	-	20.1	19.4	-
BL 1434				33.3	32.6	6.9	
BL 1446				53.1	52.4	13.5	
BL 1623	17.49 <sup>+0.1</sup> <sub>0</sub>	25.4	25.4	-	23.1	22.1	-
BL 1634				38.2	37.2	8.0	
BL 1646				60.9	59.9	15.6	

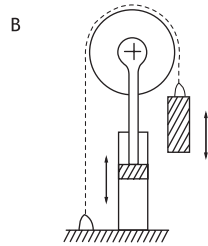
LL - Type	D	R <sub>max</sub>	H <sub>min</sub>	B <sup>+0.2</sup> <sub>0</sub>	b <sup>+0.1</sup> <sub>0</sub>	E <sup>0</sup> <sub>-0.2</sub>	e <sup>+0.1</sup> <sub>0</sub>
LL 0822	4.5 <sup>+0.05</sup> <sub>0</sub>	6.0	6.0	-	2.8	2.7	2.8
LL 0844				8.4		8.1	
LL 0866				13.8		13.5	
				19.2		18.9	
LL 1022	5.15 <sup>+0.05</sup> <sub>0</sub>	7.9	8.0	-	3.4	3.3	3.4
LL 1044				10.5		10.2	
LL 1066				17.3		17.0	
				24.0		23.7	
LL 1222	5.8 <sup>+0.05</sup> <sub>0</sub>	9.5	9.0	-	3.9	3.8	3.9
LL 1244				11.9		11.6	
LL 1266				19.7		19.4	
				27.5		27.2	
LL 1622	8.4 <sup>+0.1</sup> <sub>0</sub>	12.7	12.0	-	6.5	6.2	6.5
LL 1644				19.6		19.2	
LL 1666				32.4		32.2	
				45.6		45.2	
LL 2022	10.31 <sup>+0.1</sup> <sub>0</sub>	15.8	14.0	-	7.7	7.4	7.7
LL 2044				22.8		22.4	
LL 2066				37.8		37.4	
				52.8		52.4	
LL 2422	14.75 <sup>+0.1</sup> <sub>0</sub>	19.0	18.0	-	10.6	10.0	10.6
LL 2444				31.4		31.0	
LL 2466				52.4		52.0	
				73.4		73.0	
LL 2822	16.5 <sup>+0.1</sup> <sub>0</sub>	22.0	20.0	-	13.0	12.0	13.0
LL 2844				38.5		38.0	
LL 2866				64.5		64.0	
				90.5		90.0	
LL 3222	18.0 <sup>+0.1</sup> <sub>0</sub>	25.4	23.0	-	13.0	12.0	13.0
LL 3244				38.5		38.0	
LL 3266				64.5		64.0	
				90.5		90.0	



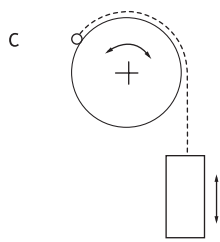
## APPLICATION



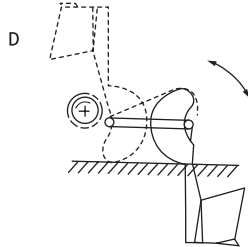
Use for counterweights of heavy machine tools-planer, multi-spindle drills, etc.



Use for increase of travel distance on hydraulic lifting.



Use for suspension of a counterweight for the arm of a drill or similar machine tool element.



Use for transmitting reciprocating motion or lifting.

## SELECTION

### Step 1

From the Application table below, determine the Type of Chain and Service Factor.

#### Application Table

Type of Chain	Shock	Applications	Service Factor	Chain Speed m/min
AL series	Light	Suspension of counterweight	1.0	Less than 30
AL and LL series		Fork lift	1.3	
BL series	Heavy	Mining machine Construction equipment	1.5	

### Step 2

Multiply the required working load by Service Factor and Safety Factor below to obtain the design tensile strength

#### Safety Factor

Type of Chain	Safety Factor	Chain Speed m/min	No of reciprocating motion
AL series	12	Less than 30	Less than 100 per day
BL series	9	Less than 30	Less than 1,000 per day

### Step 3

From the chain list, select a chain having the tensile strength not less than that obtained in Step 2.

$$\text{Working Load}^* \times \text{Service Factor} \times \text{Safety Factor} \leq \text{Minimum Tensile Strength}$$

\* Working load including weights of attachments, inertia force and impact force.

Website : [www.dongbochain.com](http://www.dongbochain.com)

E-mail : [dbc@dongbochain.com](mailto:dbc@dongbochain.com)

#### \*Head Office & Factory

940-20, YELIM-LI, CHUNGGWAN-MYUN, KIJANG-GUN, BUSAN, SOUTH KOREA  
TEL : +82-51-727-6911/6(6 lines) FAX : +82-51-727-6917

#### \*Seoul Office

A-103 554-2 MICRO BUILDING GASAN-DONG, GEUMCHEON-GU, 153-803 SEOUL, SOUTH KOREA  
TEL : +82-2-839-9102 FAX : +82-2-865-4973

#### \*China Factory

#218, CHUNCHENG ROAD, CHENGYANG WARD, QINGDAO, P.R. OF CHINA  
TEL : +86-532-8796-3341~4(4lines) FAX : +86-532-8796-3346



東寶제인工業株式會社  
DONG BO CHAIN INDUSTRY CO.,LTD.