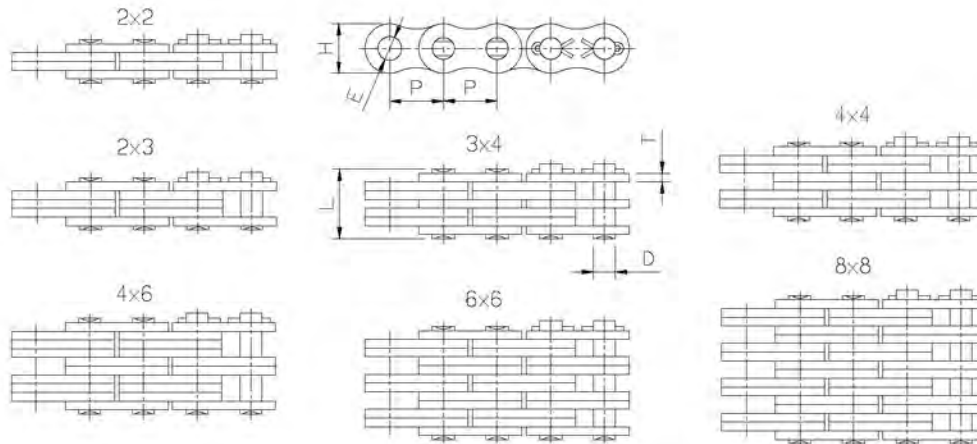


# Leaf Chains



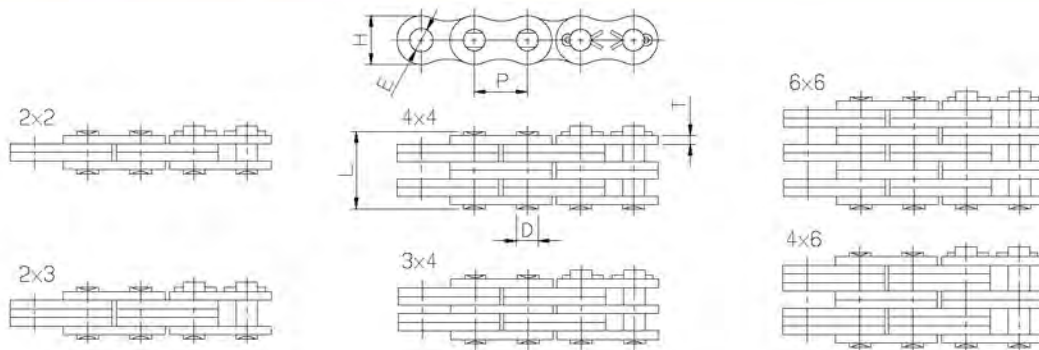
# AL SERIES LEAF CHAIN



CHAIN NO.	Lacing	Pitch P		Plate			Pin		Ultimate Strength kgf(ave.)	Approx Weight kg/m						
				Height	Hole	Thickness	Dia	Length								
		inch	mm	H(max)	E(min)	T	D(max)	L(max)								
AL422	2x2	1/2"	12.70	10.41	4.00	1.5	3.98	8.43	1800	0.36						
AL444	4x4							14.88	3600	0.71						
AL466	6x6							21.34	5400	1.22						
AL522	2x2	5/8"	15.875	13.03	5.12	2.0	5.09	11.02	3100	0.63						
AL523	2x3							13.16	3100	0.78						
AL544	4x4							19.51	6200	1.23						
AL566	6x6							27.99	9300	2.10						
AL588	8x8							36.48	12400	2.46						
AL622	2x2							3/4"	19.05	15.62	5.98	2.4	5.96	12.87	4400	0.90
AL623	2x3	15.37	4400	1.12												
AL644	4x4	22.78	8800	1.78												
AL646	4x6	27.74	8800	2.25												
AL666	6x6	32.69	13200	3.03												
AL688	8x8	42.60	17600	3.6												
AL822	2x2	1"	25.40	20.83	7.96	3.2	7.94							17.36	7800	1.48
AL844	4x4													30.78	15600	2.92
AL866	6x6							44.20	23400	4.97						
AL888	8x8							57.61	31200	5.78						
AL1022	2x2	1-1/4"	31.75	26.04	9.56	4.0	9.54	21.34	11500	2.35						
AL1044	4x4							37.90	23000	4.61						
AL1066	6x6							54.46	34500	7.88						
AL1088	8x8							71.02	46000	9.23						
AL1222	2x2	1-1/2"	38.10	31.24	11.14	4.8	11.11	25.38	15500	3.4						
AL1244	4x4							45.19	31000	6.65						
AL1266	6x6							65.00	46500	10.14						
AL1444	4x4	1-3/4"	44.45	36.45	12.74	5.6	12.71	52.88	41000	10.34						
AL1466	6x6							76.15	62000	15.16						
AL1644	4x4	2"	50.80	41.65	14.31	6.4	14.29	59.97	50000	12.98						
AL1666	6x6							86.39	75000	19.41						
AL1688	8x8							112.81	100000	25.84						

Any other enquiry than above spec. is welcomed.

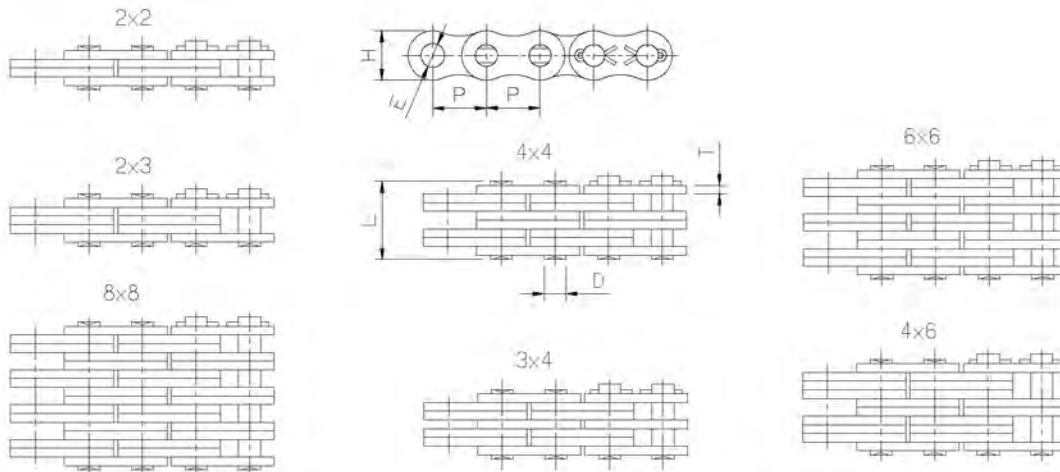
# BL SERIES LEAF CHAIN



CHAIN NO.	ISO/DIN	Lacing	Pitch		Plate			Pin		Ultimate Strength	Approx Weight
			P		Height	Hole	Thickness	Dia	Length		
			inch	mm	H(max)	E(min)	T	D(max)	L(max)		
BL422	LH0822	2x2	1/2"	12.70	12.07	5.12	2.0	5.09	11.02	3000	0.69
BL423	LH0823	2x3							13.16	3000	0.77
BL434	LH0834	3x4							17.40	4500	1.07
BL444	LH0844	4x4							19.51	6000	1.19
BL446	LH0846	4x6							23.75	6000	1.48
BL466	LH0866	6x6							27.99	9000	1.80
BL522	LH1022	2x2	5/8"	15.875	15.09	5.98	2.4	5.96	12.88	4400	0.91
BL523	LH1023	2x3							15.37	4400	1.13
BL534	LH1034	3x4							20.32	6600	1.56
BL544	LH1044	4x4							22.78	8800	1.78
BL546	LH1046	4x6							27.74	8800	2.22
BL566	LH1066	6x6							32.69	13200	2.74
BL588	LH1088	8x8							42.60	17600	3.70
BL622	LH1222	2x2							3/4"	19.05	18.11
BL623	LH1223	2x3	20.73	7000	1.82						
BL634	LH1234	3x4	27.43	10500	2.52						
BL644	LH1244	4x4	30.78	14000	2.87						
BL646	LH1246	4x6	37.49	14000	3.57						
BL666	LH1266	6x6	44.20	21000	4.27						
BL688	LH1288	8x8	57.61	28000	5.67						
BL822	LH1622	2x2	1"	25.40	24.13	9.56	4.0	9.54			
BL823	LH1623	2x3							25.48	11500	3.15
BL834	LH1634	3x4							33.76	17250	4.37
BL844	LH1644	4x4							37.90	23000	4.98
BL846	LH1646	4x6							46.18	23000	6.20
BL866	LH1666	6x6							54.46	34500	7.50
BL888	LH1688	8x8							71.03	46000	10.02

Any other enquiry than above spec. is welcomed.

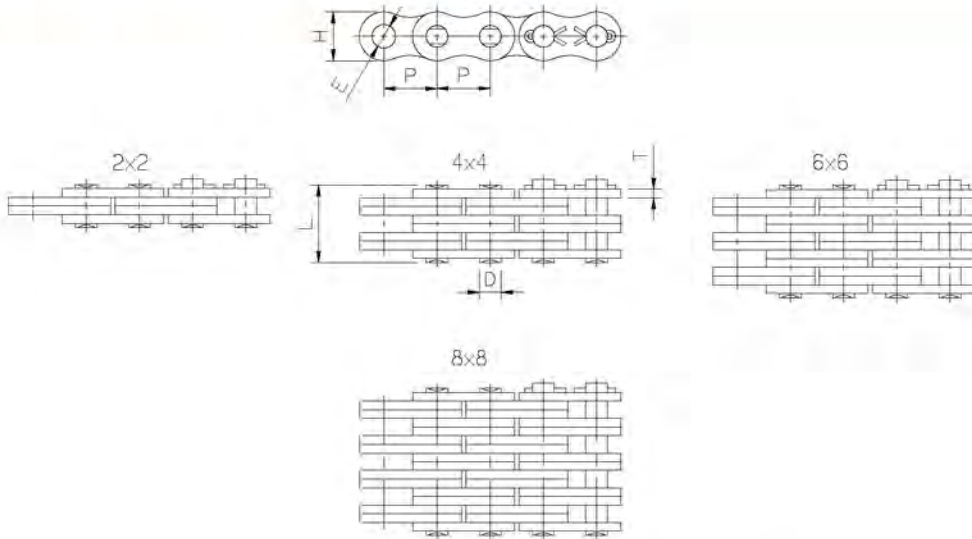
# BL SERIES LEAF CHAIN



CHAIN NO.	ISO/DIN	Lacing	Pitch		Plate			Pin		Ultimate Strength kgf(ave.)	Approx Weight kg/m
			P		Height	Hole	Thickness	Dia	Length		
			inch	mm	H(max)	E(min)	T	D(max)	L(max)		
BL1022	LH2022	2x2	1-1/4"	31.75	30.18	11.14	4.8	11.11	25.37	15500	2.49
BL1023	LH2023	2x3							30.33	15500	3.85
BL1034	LH2034	3x4							40.23	23250	5.84
BL1044	LH2044	4x4							45.19	31000	7.20
BL1046	LH2046	4x6							55.09	31000	8.24
BL1066	LH2066	6x6							65.00	46500	10.63
BL1088	LH2088	8x8							84.81	62000	14.06
BL1222	LH2422	2x2	1-1/2"	38.10	36.20	12.74	5.6	12.71	29.62	20500	4.83
BL1223	LH2423	2x3							35.43	20500	6.54
BL1234	LH2434	3x4							47.07	30750	9.10
BL1244	LH2444	4x4							52.88	41000	10.39
BL1246	LH2446	4x6							64.52	41000	12.01
BL1266	LH2466	6x6							76.15	61500	14.58
BL1288	LH2488	8x8							99.42	82000	18.77
BL1422	LH2822	2x2	1-3/4"	44.45	42.24	14.31	6.4	14.29	33.55	25000	7.20
BL1423	LH2823	2x3							40.16	25000	9.05
BL1434	LH2834	3x4							53.37	39000	12.60
BL1444	LH2844	4x4							59.97	50000	14.41
BL1446	LH2846	4x6							73.18	50000	17.98
BL1466	LH2866	6x6							86.39	75000	21.52
BL1488	LH2888	8x8							112.81	100000	28.59
BL1622	LH3222	2x2	2"	50.80	48.26	17.49	7.2	17.46	39.01	35000	9.72
BL1623	LH3223	2x3							46.58	35000	12.11
BL1634	LH3234	3x4							61.72	55000	16.86
BL1644	LH3244	4x4							69.29	70000	19.22
BL1646	LH3246	4x6							84.43	70000	23.92
BL1666	LH3266	6x6							99.57	105000	28.71
BL1688	LH3288	8x8							129.86	140000	38.19

Any other enquiry than above spec.is welcomed.

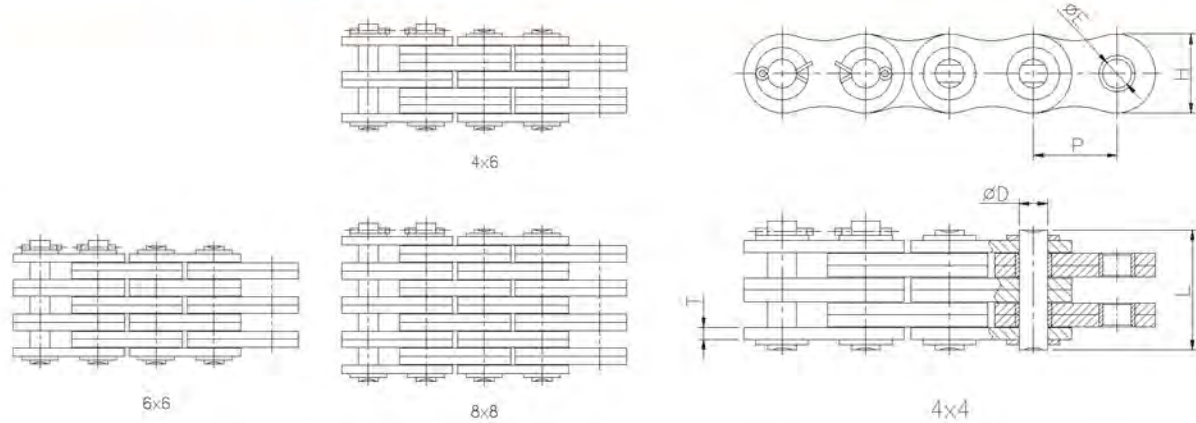
# EL SERIES LEAF CHAIN



CHAIN NO.	ISO/DIN	Lacing	Pitch		Plate			Pin		Ultimate Strength kgf(ave.)	Approx Weight kg/m
			P		Height	Hole	Thickness	Dia	Length		
			inch	mm	H(max)	E(min)	T	D(max)	L(max)		
EL422	LL0822	2x2	1/2"	12.70	10.92	4.46	1.50	4.45	8.5	2000	0.36
EL444	LL0844	4x4							14.6	4000	0.69
EL466	LL0866	6x6							20.7	6000	1.05
EL488	LL0888	8x8							26.8	8000	1.41
EL522	LL1022	2x2	5/8"	15.875	13.72	5.09	1.65	5.08	9.3	2600	0.50
EL544	LL1044	4x4							16.1	5200	1.00
EL566	LL1066	6x6							22.9	7800	1.48
EL588	LL1088	8x8							29.7	10400	1.95
EL622	LL1222	2x2	3/4"	19.05	16.13	5.73	1.80	5.72	10.7	4000	0.74
EL644	LL1244	4x4							18.5	8000	1.45
EL666	LL1266	6x6							26.3	12000	2.16
EL688	LL1288	8x8							34.1	16000	2.91
EL822	LL1622	2x2	1"	25.40	21.08	8.30	3.15	8.28	17.2	8000	1.57
EL844	LL1644	4x4							30.2	16000	3.09
EL866	LL1666	6x6							43.2	24000	4.60
EL888	LL1688	8x8							56.2	32000	6.13
EL1022	LL2022	2x2	1-1/4"	31.75	26.42	10.21	3.50	10.19	20.1	12000	2.01
EL1044	LL2044	4x4							35.1	24000	3.93
EL1066	LL2066	6x6							50.1	36000	5.86
EL1088	LL2088	8x8							65.1	48000	8.20
EL1222	LL2422	2x2	1-1/2"	38.10	33.4	14.65	5.20	14.63	28.4	19000	4.18
EL1244	LL2444	4x4							49.4	38000	8.48
EL1266	LL2466	6x6							70.4	57000	12.2
EL1288	LL2488	8x8							91.4	76000	16.0
EL1422	LL2822	2x2	1-3/4"	44.45	37.08	15.92	6.40	15.90	34.0	25000	5.20
EL1444	LL2844	4x4							60.0	50000	10.10
EL1466	LL2866	6x6							86.0	75000	14.90
EL1488	LL2888	8x8							112.0	100000	19.80
EL1622	LL3222	2x2	2"	50.80	42.29	17.83	6.40	17.81	35.0	30000	7.02
EL1644	LL3244	4x4							61.0	60000	12.71
EL1666	LL3266	6x6							87.0	90000	18.91
EL1688	LL3288	8x8							113.0	120000	25.08
EL1644(T6)	LL3244(T6)	4x4	2"	50.80	42.29	17.83	6.00	17.81	56.15	60000	12.67
EL1666(T6)	LL3266(T6)	6x6							81.15	90000	18.85
EL1688(T6)	LL3288(T6)	8x8							108.15	120000	24.40

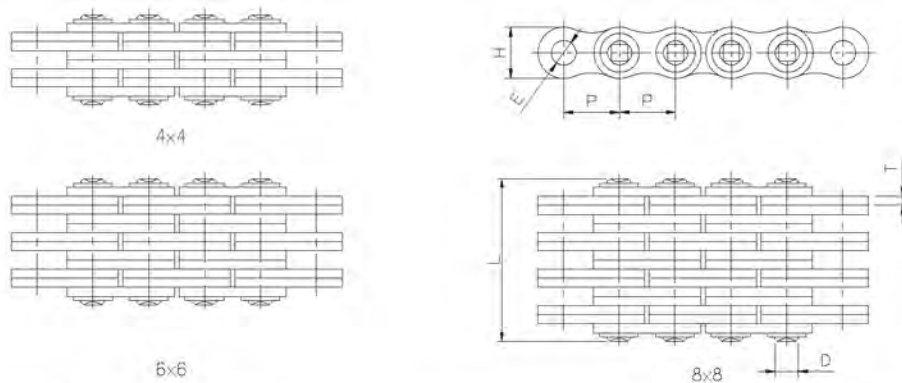
Any other enquiry than above spec. is welcomed.

# HARBOR LEAF CHAIN

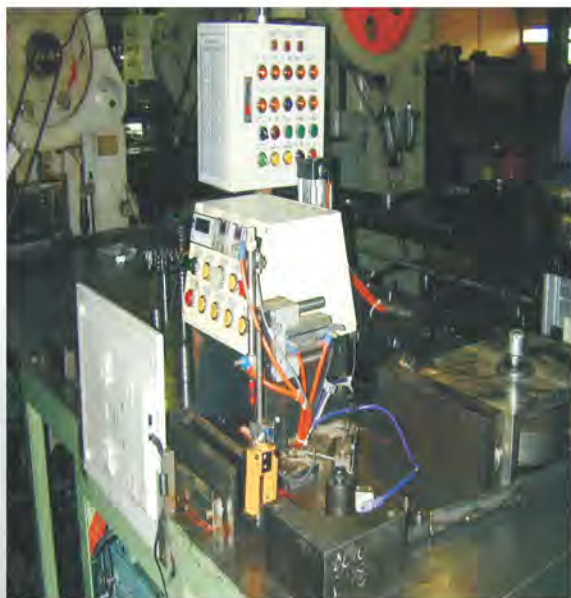


CHAIN NO.	Lacing	Pitch		Plate			Pin		Ultimate Strength kgf(ave.)	Approx Weight kg/m
		P		Height	Hole	Thickness	Dia	Length		
		inch	mm	H(max)	E(min)	T	D(max)	L		
BL1444UB	4x4	1-3/4"	44.45	42.24	14.31	6.4	14.29	65.45	52000	14.04
BL1446UB	4x6							78.55		
BL1466UB	6x6							91.85		
BL1488UB	8x8							118.15		
BL1644UB	4x4	2"	50.80	48.26	17.49	7.2	17.46	72.75	66000	18.06
BL1646UB	4x6							87.70		
BL1666UB	6x6							101.95		
BL1688UB	8x8							131.75		

Any other enquiry than above spec. is welcomed.



CHAIN NO.	Lacing	Pitch		Plate			Pin		Ultimate Strength kgf(ave.)	Approx Weight kg/m
		P		Height	Hole	Thickness	Dia	Length		
		inch	mm	H(max)	E(min)	T	D(max)	L		
LL2444U	4x4	1-1/2"	38.10	33.73	14.65	5.00	14.63	52.70	36000	9.04
LL2466U	6x6							72.70		
LL2488U	8x8							93.70		
LL3244U	4x4	2"	50.80	42.72	17.83	6.00	17.81	60.00	60000	12.97
LL3266U	6x6							86.10		
LL3288U	8x8							111.10		
LL321010U	10x10							134.80		



## EXCELLENT INSPECTION DEVICE FOR LEAF CHAIN - CHARGE COUPLED DEVICE

Safety is the major factor for Leaf Chain due to lift application. Zero defects then is an essential to chain quality. MING CHAIN has created an ideal inspection device to avoid chain defects, Charge Coupled Device (CCD Inspection Device), which was been developed after many years of improvement by our QC Dept. CCD is also one of MAXTOP most patented pride development on Quality Control.

All our Leaf Chain is CCD inspected after final assembly, complying with the Highest international

industry standard. Using the optical photography technique, shadows of chains are connected projected to the computer. CCD computer built-in sensors can then detect all potential defects from received pictures. CCD built-in sensors could be designed to check missing parts, short pins, poor riveting and other possible problems; when chains fail to pass the checking points, failed parts will be recorded and marked to ensure the highest quality of chains. (CCD Inspection, PAT# ZL00205701.8, Certificate# 411436)

Overall Result	FAIL	Result	<   Output Value   >
UP_REF	PASS	Line Offset = 75.33%	
UP_R_PIN_REF	PASS	Line Offset = 52.63%	
DN_REF	PASS	Line Offset = 71.67%	
UP_R_SHORTPIN	PASS	Bright Area = 0.00%	
UP_L_SHORTPIN	PASS	Bright Area = 0.00%	
DN_R_SHORTPIN	PASS	Bright Area = 0.00%	
DN_L_SHORTPIN	PASS	Bright Area = 0.00%	
UP_PLP	PASS	Bright Area = 0.00%	
DN_PLP	PASS	Bright Area = 0.00%	
UP_JLP	PASS	Bright Area = 0.00%	
DN_JLP	PASS	Bright Area = 0.00%	
MLP	FAIL	Bright Area = 48.81%	
DN_JLP	PASS	Bright Area = 0.00%	



## HOW TO SELECT A LEAF CHAINS

**Step 1** From the Application Table below, determine the type of chain and service factor.

### APPLICATION TABLE

Shock	Application	Type of Chain	Chain Speed	Service Factor
Smooth running	Smooth starts & stops, Slow and gentle variations.	AL series	Less than 100 ft./min.	1.0
Moderate shocks	Frequent starts & stops, load variations and reverse motions.	AL series BL series		1.3
Heavy shocks	Sudden starts & stops, load variations and reverse motions.	BL series		1.5

**Step 2** Multiply the required working load by the service factor and safety factor below to obtain the design tensile strength.

### SAFETY FACTOR

Type of chain	Chain Speed	Maximum No. of Reciprocations	Safety Factor
AL series	Less than 100 ft/min	Less than 100 per day	12
BL series	Less than 100 ft/min	Less than 1000 per day	9

**Step 3** From the chain list, select a chain having a tensile strength not less then that obtained in step 2.

$$\boxed{\text{Working Load}} \times \boxed{\text{Service Factor}} \times \boxed{\text{Safety Factor}} \leq \boxed{\text{Minimum tensile strength}}$$

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

## LUBRICATION

### REGULAR MAINTENANCE

Regular application of oil is necessary to ensure that lubricant is maintained between all working surfaces. A suggested frequency of application is every 250 hours or sooner if the chain becomes dry.

### RE-LUBRICATION AFTER CLEANING AND INSPECTION

Used chains that are within length specification and not damaged need to be re-lubricated before returned to service. The chains should be articulated to ensure that lubricant penetrates to the working surfaces between the pins and links. All surplus lubricant should be wiped away from external surface but not removed with solvent.