

Link-Belt® LS-318 Performance Specifications

Boom live mast — lifting capacities when used as short boom ①

Boom live mast radius		Upper with or without counterweight Crawler side frames extended ②	
Feet	meters	Pounds	kilograms
11' 6" ③	3.51	47,000	21 319
15' 0"	4.57	42,000	19 051
17' 6"	5.33	38,000	17 237
20' 0"	6.10	33,000	14 969
23' 0"	7.01	28,000	12 701

① Boom live mast stops must be in proper working condition and operative. Use of live mast as short boom is intended for machine assembly or disassembly only. It should not be used for general crane service. 4-parts 7/8" (22 mm) diameter Type "N" wire rope are required.

② Crawler side frames must be in extended position.

③ Live mast must never be operated at less than 11' 6" (3.51 m) radius.

Wire rope and rope drum data

Main load hoist wire rope length — for angle ① and tubular ② open throat booms using 7/8" (22 mm) diameter wire rope

Parts of line	Boom lengths															
	50' (15.24 m)		60' (18.29 m)		70' (21.34 m)		80' (24.38 m)		90' (27.43 m)		100' (30.48 m)		110' (33.53 m)		120' (36.58 m)	
	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters
1	120	36.58	140	42.67	160	48.77	180	54.86	200	60.96	220	67.06	240	73.15	260	79.25
2	180	54.86	210	64.01	240	73.15	270	82.30	300	91.44	330	100.58	360	109.73	390	118.87
3	240	73.15	280	85.34	320	97.54	360	109.73	400	121.92	440	134.11	480	146.30	520	158.50
4	300	91.44	350	106.68	400	121.92	450	137.16	500	152.40	550	167.64	600	182.88	650	198.12
5	360	109.73	420	128.02	480	146.30	540	164.59	600	182.88	660	201.17	720	219.46	780	237.74
6	420	128.02	490	149.35	560	170.69	630	192.02	700	213.36	770	234.70	840	256.03	910	277.37
7	480	146.30	560	170.69	640	195.07	720	219.46	800	243.84	880	268.22	960	292.60	1,040	316.99
8	540	164.59	630	192.02	720	219.46	810	246.89	900	274.32	990	301.75	1,080	329.18	1,070	356.62

Parts of line	Boom lengths													
	130' (39.62 m)		140' (42.67 m)		150' (45.72 m)		160' (48.77 m) ③		170' (51.82 m) ③		180' (54.86 m) ③		190' (57.91 m) ③	
	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters
1	280	85.34	300	91.44	320	97.54	340	103.63	360	109.73	380	115.82	400	121.92
2	420	128.02	450	137.16	480	146.30	510	155.45	540	164.59	570	173.74	600	182.88
3	560	170.69	600	182.88	640	195.07	680	207.26	720	219.46	760	231.65	800	243.84
4	700	213.36	750	228.60	800	243.84	850	259.08	900	274.32	950	289.56	1,000	304.80
5	840	256.03	900	274.32	960	292.61	1,020	310.90	1,080	329.18	1,140	347.47	1,200	365.76
6	980	298.70	1,050	320.04	1,020	341.38	1,190	362.71	1,260	384.05	1,330	405.38	1,400	426.72
7	1,120	341.38	1,200	365.76	1,280	390.14	1,360	414.53	1,440	438.91	1,520	463.30	1,600	487.68
8	1,260	384.05	1,350	411.48	1,440	438.91	1,530	466.34	1,620	493.78	1,710	521.21	1,800	548.64

① Open throat angle boom lengths: 50' through 150' (15.24 through 45.72 m).

② Open throat tubular boom lengths: 50' through 190' (15.24 through 57.91 m).

③ For tubular boom only.

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Wire rope and rope drum data — (continued)

Jib load hoist rope lengths (whipline) — using 7/8" (22 mm) diameter wire rope

Jib length	Parts of line	Boom lengths															
		50' (15.24 m)		60' (18.29 m)		70' (21.33 m)		80' (24.38 m)		90' (27.43 m)		100' (30.48 m)		110' (33.53 m)		120' (36.58 m)	
		Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters
20' Ⓞ (6.10 m)	1	160	48.77	180	54.86	200	60.96	220	67.06	240	73.15	260	79.25	280	85.34	300	91.44
	2	235	71.63	265	80.77	295	89.92	325	99.06	355	108.20	385	117.35	415	126.49	445	135.64
30' (9.14 m)	1	180	54.86	200	60.96	220	67.06	240	73.15	260	79.25	280	85.34	300	91.44	320	97.54
	2	265	80.77	295	89.91	325	99.06	355	108.20	385	117.35	415	126.49	445	135.64	475	144.78
40' (12.19 m)	1	200	60.96	220	67.06	240	73.15	260	79.25	280	85.34	300	91.44	320	97.54	340	103.63
	2	295	89.92	325	99.06	355	108.20	385	117.35	415	126.49	445	135.64	475	144.78	505	153.92
50' Ⓞ (15.24 m)	1	220	67.06	240	73.15	260	79.25	280	85.34	300	91.44	320	97.54	340	103.63	360	109.73
	2	325	99.06	355	108.20	385	117.35	415	126.49	445	135.64	475	144.78	505	153.92	535	163.07
60' Ⓞ (18.29 m)	1	240	73.15	260	79.25	280	85.34	300	91.44	320	97.54	340	103.63	360	109.73	380	115.82
	2	355	108.20	385	117.35	415	126.49	445	135.64	475	144.78	505	153.92	535	163.07	565	172.21

Jib length	Parts of line	Boom lengths							
		130' (39.62 m)		140' (42.67 m)		150' (45.72 m)		160' (48.77 m) Ⓞ	
		Feet	meters	Feet	meters	Feet	meters	Feet	meters
20' Ⓞ (6.10 m)	1	320	97.54	340	103.63	360	109.73	Not applicable	
	2	475	144.78	505	153.92	535	163.07	Not applicable	
30' (9.14 m)	1	340	103.63	360	109.73	380	115.82	400	121.92
	2	505	153.92	535	163.07	565	172.21	595	181.36
40' (12.19 m)	1	360	109.73	380	115.82	400	121.92	420	128.02
	2	535	163.07	565	172.21	595	181.36	625	190.50
50' Ⓞ (15.24 m)	1	380	115.82	400	121.92	420	128.02	440	134.11
	2	565	172.21	595	181.36	625	190.50	655	199.64
60' Ⓞ (18.29 m)	1	400	121.92	420	128.02	440	134.11	460	140.21
	2	595	181.36	625	190.50	655	199.64	685	208.79

Ⓞ Angle boom only.

Ⓞ Tubular boom only.

Ⓞ Maximum angle boom length on which jib can be mounted is 150' (45.72 m); 160' (48.77 m) boom length applies only to tubular boom.

Drum wire rope capacities

Wire rope layer	Front or rear drum — 20" (0.51 m) root diameter smooth lagging								Boomhoist drum — 11 1/4" (0.29 m) root diameter smooth lagging			
	7/8" (22 mm) wire rope				1" (26 mm) wire rope				3/4" (19 mm) wire rope			
	Rope per layer		Total wire rope		Rope per layer		Total wire rope		Rope per layer		Total wire rope	
	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters
1	119	36.27	119	36.27	105	32.00	105	32.00	35	10.67	35	10.67
2	135	41.15	254	77.42	121	36.88	126	38.88	42	12.80	42	12.80
3	145	44.20	399	121.62	131	39.93	137	41.83	47	14.33	47	14.33
4	156	47.55	555	169.16	142	43.28	149	45.10	52	15.85	52	15.85
5	166	50.60	721	219.76	152	46.33	160	49.42	56	17.07	56	17.07
6	177	53.95	898	273.71	162	49.38	171	52.40	62	18.90	62	18.90
7	187	57.00	1,085	330.71	173	52.73	183	55.83				
8	198	60.35	1,283	391.06								

Wire rope layer	Front or rear drum — 20" (0.51 m) root diameter grooved lagging				Front drum (inhaul) — 18" (0.46 m) root diameter grooved lagging				Third drum — 13 1/4" (0.34 m) root diameter smooth lagging			
	7/8" (22 mm) wire rope				1" (26 mm) wire rope				7/8" (22 mm) wire rope			
	Rope per layer		Total wire rope		Rope per layer		Total wire rope		Rope per layer		Total wire rope	
	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters
1	108	32.92	108	32.92	88	26.82	88	26.82	81	24.69	81	24.69
2	135	41.15	243	74.07	110	33.53	118	36.35	95	28.96	95	28.96
3	145	44.20	388	118.26	120	36.58	130	39.93	105	32.00	105	32.00
4	156	47.55	544	165.81	131	39.93	142	43.28				
5	166	50.60	710	216.41	141	42.98	153	46.33				
6	177	53.95	887	270.36	152	45.33	165	49.38				
7	187	57.00	1,074	327.36	162	49.38	177	53.95				
8	198	60.35	1,272	387.71	173	52.73	190	57.91				

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Wire rope and rope drum data — (continued)

Clamshell or dragline wire rope lengths using one part of line

Attachment	Function	Boom lengths											
		50' (15.24 m)		60' (18.29 m)		65' (19.81 m)		70' (21.34 m)		75' (22.86 m)		80' (24.88 m)	
		Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters	Feet	meters
Clamshell	Holding	130	39.62	150	45.72	160	48.77	170	51.82	180	54.86	190	57.91
		180	54.86	200	60.96	210	64.01	220	67.06	230	70.10	240	73.15
Dragline	Hoist	130	39.62	150	45.72	160	48.77	170	51.82	180	54.86	190	57.91
		75	22.86	85	25.90	90	27.43	95	28.96	100	30.48	105	32.00

Boom hoist wire rope lengths — with boom live mast: 410' (124.97 m)
 — without boom live mast: 350' (106.68 m)

Rope size and type

Wire rope application	Size and type used
Boomhoist	3/4" (19 mm) diameter, Type "W"
Main load hoist	7/8" (22 mm) diameter, Type "N"
Jib load hoist (1-part)	7/8" (22 mm) diameter, Type "P"
Jib load hoist (2-part)	7/8" (22 mm) diameter, Type "N"
Third drum	7/8" (22 mm) diameter, Type "N"
Clamshell holding (hoist) or closing	7/8" (22 mm) diameter, Type "M"
Dragline hoist	7/8" (22 mm) diameter, Type "D"
Dragline inhaul	1" (26 mm) diameter, Type "T"
Boom pendants	
— for boom with live mast	1 1/4" (32 mm) diameter, Type "N"
— for boom without live mast	1 1/2" (38 mm) diameter, Type "N"
Boom midpoint suspension pendants	7/8" (22 mm) diameter, Type "N"
Jib frontstay line	3/4" (19 mm) diameter, Type "N"
Jib backstay line	3/4" (19 mm) diameter, Type "N"

Wire rope types
Type "D" — 6 x 25 (6 x 19 class), filler wire, improved plow steel, preformed, independent wire rope center, right lay, lang lay.
Type "M" — 6 x 25 (6 x 19 class), filler wire, extra improved plow steel, preformed, independent wire rope center, right lay, lang lay.
Type "N" — 6 x 25 (6 x 19 class), filler wire, extra improved plow steel, preformed, independent wire rope center, right lay, regular lay.
Type "P" — 19 x 7 non-rotating, extra improved plow steel, preformed, wire strand core.
Type "T" — 6 x 30 flattened strand, extra improved plow steel, preformed, independent wire rope center, right lay, lang lay.
Type "W" — 6 x 26 (6 x 19 class), extra improved plow steel, preformed independent wire rope center, right lay, alternate lay.

Available line speed and line pull^① — based on GM 6-71N^② diesel with friction clutch developing maximum net horsepower as defined by P.C.S.A. Standard No. 1.

Attachment	Front or rear drum								Third drum					
	Root diameter	Wire rope diameter		Line speed — first layer		Line pull — first layer		Root diameter	Wire rope diameter		Line speed — first layer		Line pull — first layer	
		Inches	mm	Fp.m.	m/min	Pounds	kilograms		Inches	mm	Fp.m.	m/min	Pounds	kilograms
Crane, clamshell, or dragline hoist	20" (0.51 m)	7/8	22	167	50.90	28,900	13 109	13 1/4" (0.34 m)	7/8	22	169	51.51	26,800	12 156
Dragline inhaul	18" (0.46 m)	1	26	152	46.33	30,800	13 971							

Permissible line speed and pull^① — based on Type "N" wire rope strength, single part line.

Attachment	Front or rear drum								Third drum					
	Root diameter	Wire rope diameter		Line speed — first layer		Line pull — first layer		Root diameter	Wire rope diameter		Line speed — first layer		Line pull — first layer	
		Inches	mm	Fp.m.	m/min	Pounds	kilograms		Inches	mm	Fp.m.	m/min	Pounds	kilograms
Crane, clamshell, or dragline hoist	20" (0.51 m)	7/8	22	167	50.90	22,700	10 297	13 1/4" (0.34 m)	7/8	22	169	51.51	22,700	10 297
Dragline inhaul	18" (0.46 m)	1	26	152	46.33	29,600	13 427							

^①Limited by engine capabilities

^① Maximum permissible load on single part of line: 22,700 lbs. (10 297 kg) for 7/8" (22 mm) diameter Type "N" wire rope; 14,800 lbs. (6 713 kg) for 7/8" (22 mm) Type "P" wire rope; 29,600 lbs. (13 427 kg) for 1" (26 mm) diameter Type "N" wire rope.

^② Data applicable only to GM6-71N diesel engine as described above. If required, similar data for other engine packages available from Sales Office.

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Load hoisting performance ① — line speeds are maximum for full throttle operation (1,882 r.p.m. full load speed) with GM 6-71N diesel engine equipped with Allison single stage torque converter with optional tail shaft governor override.

Single line load ②		Front or rear drum — 20" (0.51 m) root diameter smooth or grooved laggings using 7/8" (22 mm) diameter wire rope					
		Line speed					
		First layer rope		Fourth layer rope		Eighth layer rope	
Pounds	kilograms	Fp.m.	m/min	Fp.m.	m/min	Fp.m.	m/min
5,000	2 268	258	78.64	321	97.84	404	123.14
10,000	4 536	252	76.81	311	94.79	373	113.69
15,000	6 804	238	72.54	280	85.34	324	98.75
20,000	9 072	219	66.75	249	75.89	248	75.59
25,000	11 340	199	60.66	200	60.96	182	55.47
30,000	13 608	168	51.21	154	46.94	127	38.71

Single line load ②		Third drum — 13 1/4" (0.34 m) root diameter smooth lagging using 7/8" (22 mm) diameter wire rope					
		Line speed					
		First layer rope		Second layer rope		Third layer rope	
Pounds	kilograms	Fp.m.	m/min	Fp.m.	m/min	Fp.m.	m/min
5,000	2 268	261	79.55	292	89.00	324	98.76
10,000	4 536	255	77.72	285	86.87	310	94.49
15,000	6 804	237	72.24	258	78.64	276	84.12
20,000	9 072	216	65.84	231	70.41		

① Data applicable only to GM6-71N diesel engine as described above. If required, similar data for other engine packages available from Sales Office.

② Maximum permissible load on single part of line: 22,700 lbs. (10 297 kg) for 7/8" (22 mm) diameter Type "N" wire rope; 14,800 lbs. (6 713 kg) for 7/8" (22 mm) Type "P" wire rope; 29,600 lbs. (13 427 kg) for 1" (26 mm) diameter Type "N" wire rope.

We are constantly improving our products and therefore reserve the right to change designs and specifications.



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