Liebherr Top Technology

Cranes for Wind Power



LIEBHERR

4 Concepts
for Wind Power



	Size of facility	Economical transportation	Moving on the jobsite	Flexibility
LTM 	★★★	★★★★★	★★★★	★★★★★
LR 	★★★★★	★★	★★★	★★★★★
LR-W 	★★★★	★★	★★★★★	★★
LG 	★★★★★	★★★	★★★	★★★



Liebherr offers optimized crane concepts for the most diverse situations and requirements for the erection of wind power generators for highest efficiency and economy.

Telescopic Mobile Crane LTM
- Driving on public roads
- Economical transportation and short erection times
- Limited space requirement for crane erection
- Driving from job site to job site with retracted telescopic boom, Y-guying system, additional equipment and partial ballast on 3 m wide roads
- Universally employable: industry, infrastructural measures, wind power

Lattice Boom Crawler Crane LR
- Highest capacity and lifting height
- Movable with complete equipment on wide tracks
- Universally employable: heavy load, industry, wind power
- Efficient for operation in wind parks as well as for single units

Narrow Track Lattice Boom Crawler Crane LR-W
- Movable on narrow roads
- Driving with long boom systems
- With derrick system also capable for large wind generators
- Especially efficient for jobs in wind parks

Lattice Boom Mobile Crane LG
- Basic unit drivable on public roads
- Less transportation units than lattice boom crawler cranes
- Universally employable: heavy load, industry, wind power
- Efficient for operation in wind parks as well as for single units
- Dismantling of the crane for relocation, basic unit drives with only 3 m width

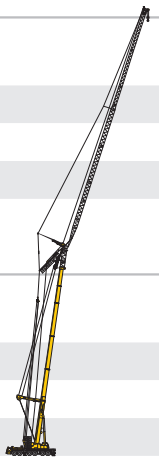
Telescopic Mobile Crane
LTM 1350-6.1

LTM 1350-6.1	
Q_{max}	350 t
m	70 m
	455 kW 619 HP
	180 kW 245 HP
	140 t
	12x6x12 12x8x12
km/h	80



- 6-axle all terrain chassis
- Longest telescopic boom of its class
- Self-assembly of Y-guying system for telescopic boom
- Top capacities at the fixed jib for erection and maintenance of wind power generators
- Sensitive manoeuvring due to comfortable all-wheel steering and torque converter
- Economical transportation logistics as for maximum capacities at steep working radii only partial ballast is needed





Telescopic boom + Y-guying system + fixed jib

Hub height	Max. capacity at radius	Hook height	System
60 m	35 t x 16 m	70 m	TYVEF
80 m	21.1 t x 18 m	88 m	TYVEF
100 m	8.2 t x 22 m	106 m	TYVEFH

Telescopic boom + Y-guying system + luffing jib

Hub height	Max. capacity at radius	Hook height	System
60 m	31 t x 18 m	71 m	TYVEN
80 m	17.3 t x 24 m	92 m	TYVEN
100 m	10.1 t x 30 m	109 m	TYVEN



Telescopic Mobile Crane
LTM 1400-7.1

LTM 1400-7.1	
Q_{max}	400 t
m	60 m
	455 kW 619 HP
	240 kW 326 HP
	140 t
	14x6x14 14x8x14
km/h	80

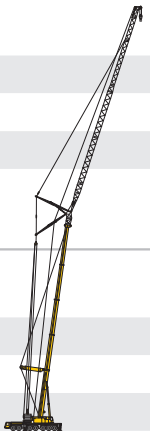


- 7-axle all terrain chassis
- Strong boom system due to Y-guying system and spacer
- Self-assembly of Y-guying system for telescopic boom
- Sensitive manoeuvring due to comfortable all-wheel steering and torque converter
- Hydraulic adjustment of the ballast radius from 5.6 m to 6.6 m, thus reduction of ballast transportation
- Economical transportation logistics as for maximum capacities at steep working radii only partial ballast is needed



Telescopic boom + Y-guying system + fixed jib

Hub height	Max. capacity at radius	Hook height	System
60 m	29.3 t x 16 m	70 m	TYSF
80 m	16.8 t x 16 m	87 m	TYSF
100 m	7.4 t x 22 m	107 m	TYSF



Telescopic boom + Y-guying system + luffing jib

Hub height	Max. capacity at radius	Hook height	System
60 m	46.5 t x 16 m	68 m	TYSN
80 m	27.5 t x 22 m	88 m	TYSN
100 m	14.9 t x 30 m	108 m	TYSN

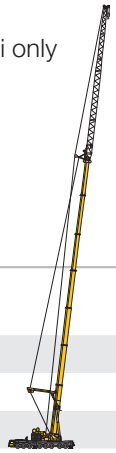


Telescopic Mobile Crane
LTM 1500-8.1

LTM 1500-8.1	
max	500 t
m	50 m / 84 m
	505 kW 686 HP
	240 kW 326 HP
	165 t
	16x8x12
km/h	80

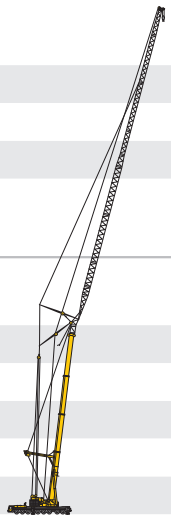


- 8-axle all terrain chassis
- Bestseller for the assembly of wind generators of the 1.5 MW class
- Multi variable boom system: 50 m and 84 m telescopic boom, fixed and luffing lattice jib
- Sensitive manoeuvring due to comfortable all-wheel steering and torque converter
- Economical transportation logistics as for maximum capacities at steep working radii only partial ballast is needed



84 m-telescopic boom + Y-guying system + fixed jib

Hub height	Max. capacity at radius	Hook height	System
60 m	64 t x 16 m	72 m	TY3ENZF
80 m	38.5 t x 20 m	88 m	TY3ENZF
100 m	17.2 t x 24 m	109 m	TY3ENZF



50 m-telescopic boom + Y-guying system + luffing jib

Hub height	Max. capacity at radius	Hook height	System
60 m	78 t x 18 m	72 m	TY3SN
80 m	56 t x 24 m	90 m	TY3SN
100 m	31 t x 30 m	109 m	TY3SN
105 m	24 t x 34 m	116 m	TY3SN
120 m	16.1 t x 38 m	129 m	TY3SN



Telescopic Mobile Crane
LTM 1750-9.1

LTM 1750-9.1	
m_{max}	750 t
m	52 m
	505 kW 686 HP
	300 kW 408 HP
	204 t
	18x8x18
km/h	80



- 9-axle all terrain chassis
- Driving on public roads with telescopic boom and 2 outrigger beams at 12 t axle load
- Most modern working equipment: fixed and luffing lattice jib, boom extension and auxiliary jib are optimized for the assembly of wind power generators
- Sensitive manoeuvring due to comfortable all-wheel steering and torque converter
- Economical transportation logistics as for maximum capacities at steep working radii only partial ballast is needed



Telescopic boom + Y-guying system + fixed jib

Hub height	Max. capacity at radius	Hook height	System
80 m	58.5 t x 16 m	88 m	TYV23E3F 10°



Telescopic boom + Y-guying system + luffing jib

Hub height	Max. capacity at radius	Hook height	System
80 m	84.7 t x 20 m	90 m	TYV2EN
100 m	59.7 t x 25 m	107 m	TYV2EN
100 m	54.1 t x 26 m	110 m	TYV2EN
120 m	30.3 t x 34 m	130 m	TYV2EN
130 m	22.2 t x 42 m	140 m	TYV2EN
140 m	13.3 t x 48 m	150 m	TYV2EN

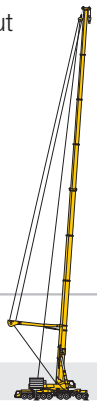


Telescopic Mobile Crane
LTM 11200-9.1

LTM 11200-9.1	
max	1200 t
m	55 m / 100 m
	500 kW 680 HP
	270 kW 367 HP
	202 t
	18x8x18
km/h	75

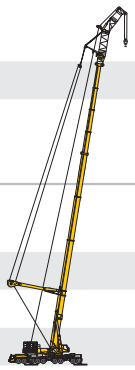


- 9-axle all terrain chassis
- Strongest mobile crane worldwide
- Driving on public roads at 12 t axle load with slewing platform and 4 outrigger beams without telescopic boom
- Driving on jobsites with 100 m telescopic boom and Y-guying system plus attachments
- Sensitive manoeuvring due to comfortable all-wheel steering and torque converter
- Economical transportation logistics as for maximum capacities at steep working radii only partial ballast is needed



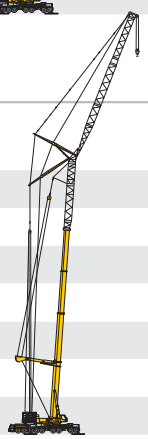
100 m-telescopic boom + Y-guying system

Hub height	Max. capacity at radius	Hook height	System
80 m	84 t x 16 m	92 m	T7Y



100 m-telescopic boom + Y-guying system + fixed jib

Hub height	Max. capacity at radius	Hook height	System
80 m	94 t x 20 m	89 m	T7YVENZF
100 m	76 t x 16 m	107 m	T7YVEV2NZF
105 m	65 t x 16 m	114 m	T7YVEV3V2NZF

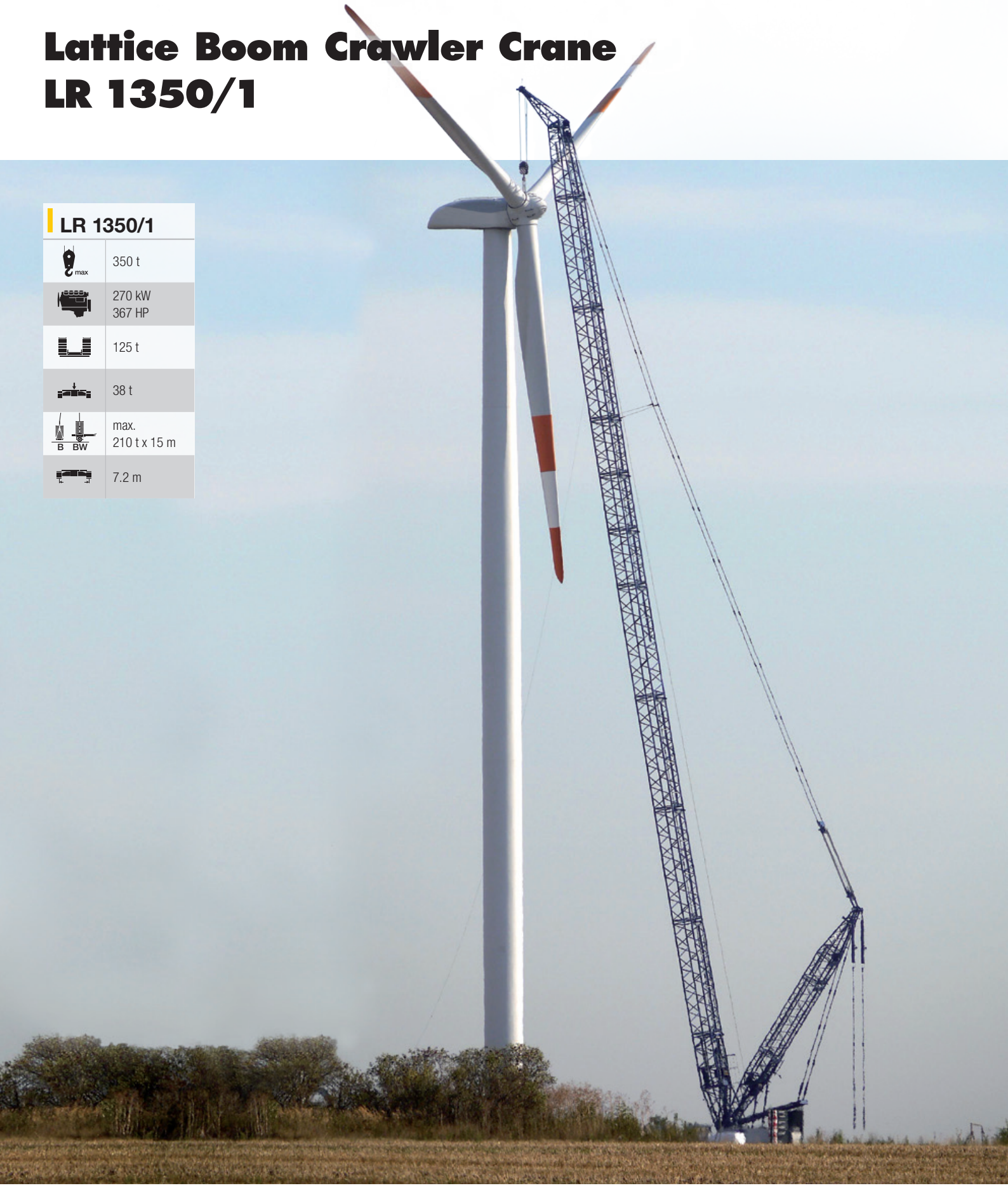


52 m-telescopic boom + Y-guying system + luffing jib

Hub height	Max. capacity at radius	Hook height	System
80 m	141 t x 18 m	90 m	T3YVEN
100 m	97 t x 22 m	112 m	T3YV2VEN
105 m	83 t x 24 m	117 m	T3YV2VEN
120 m	58 t x 32 m	128 m	T3YV2VEN
130 m	38 t x 36 m	138 m	T3YV2VEN
140 m	26.1 t x 44 m	148 m	T3YV2VEN
150 m	15.8 t x 50 m	158 m	T3YV2VEN

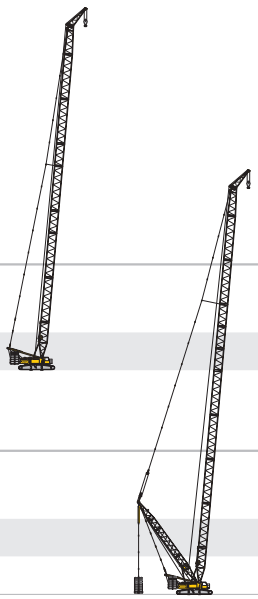


Lattice Boom Crawler Crane LR 1350/1



LR 1350/1	
max	350 t
	270 kW 367 HP
	125 t
	38 t
B BW	max. 210 t x 15 m
	7.2 m

- Most compact crane of its class, efficient transportation due to optimized component weights
- Complete self erection with optional ballasting device possible
- Especially economical crane for assembly of units of the 2 to 2.5 MW class
- Special wind power configuration S3HS with and without derrick system available
- Fast and simple assembly of the HS-assembly jib
- 1.5 m crawler plates available for reduced ground pressure



Main boom + assembly jib

Hub height	Max. capacity at radius	Hook height	System
80 m	83 t x 14 m	92 m	S3HS

Main boom + derrick system + assembly jib

Hub height	Max. capacity at radius	Hook height	System
80 m	88 t x 14 m	92 m	S3DHSB
100 m	69 t x 20 m	109 m	S3DHSB

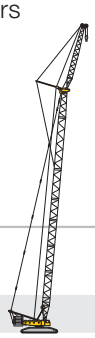


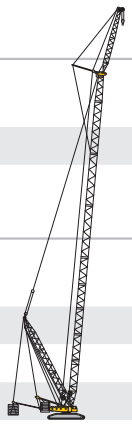
Lattice Boom Crawler Crane
LR 1400/2



LR 1400/2	
max	400 t
	270 kW 367 HP
	155 t
	43 t
B BW	max. 260 t x 15 m
	7.5 m

- Versatile application possibilities due to multifunctional boom system
- Special wind power configuration with fixed jib F2 without derrick system ideal for the erection of wind power generators on 80 m towers, with derrick system on 100 m towers
- Optional 1.5 m crawler plates and 4-fold drive available





Main boom + fixed jib

Hub height	Max. capacity at radius	Hook height	System
80 m	78 t x 18 m	90 m	S2F2

Main boom + derrick system + fixed jib

Hub height	Max. capacity at radius	Hook height	System
80 m	114 t x 18 m	92 m	SDF2B
100 m	78 t x 22 m	113 m	SDF2B
115 m	55 t x 22 m	127 m	SDF2B



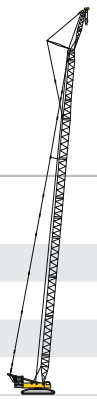
Lattice Boom Crawler Crane
LR 1500

LR 1500	
max	500 t
	350 kW 476 HP
	170 t
	40 t
B BW	max. 280 t x 16 m
	7.6 m



- The latest crawler crane technology
- Improved wind power systems for tower heights of 80 m to 100 m
- Worldwide cost-effective transport with a transport weight of just 45 t
- The dimensions of a 400 t class with the lifting capacity of a 500 t crane over its entire working range

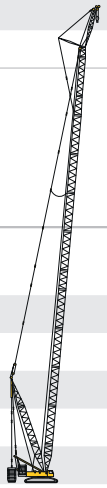
Preliminary



Main boom + fixed jib

Hub height	Max. capacity at radius	Hook height	System
80 m	102 t x 16 m	94 m	SL3F
85 m	95 t x 16 m	100 m	SL3F
90 m	87 t x 16 m	106 m	SL3F
100 m	77 t x 18 m	112 m	SL3F

Preliminary



Main boom + derrick system + fixed jib

Hub height	Max. capacity at radius	Hook height	System
80 m	112 t x 16 m	94 m	SL4DFB
90 m	105 t x 16 m	100 m	SL4DFB
100 m	90 t x 16 m	112 m	SL4DFB
120 m	74 t x 18 m	130 m	SL4DFB
130 m	60 t x 20 m	142 m	SL4DFB





Lattice Boom Crawler Crane LR 1600/2

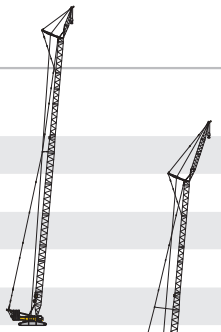


LR 1600/2	
max	600 t
	400 kW 544 HP
	190 t
	65 t
B BW	max. 350 t x 18 m
B2	max. 350 t x 20 m
	8.4 m

- Specially optimized fixed jib for wind power
- Simple assembly of wind power generators on 105 m towers without derrick system
- Extendable with derrick system for tower heights up to 150 m
- System SL13DFB with unrivalled capacities in the 600 t class to 164 m hook height
- Optional 2 m crawler plates and 4-fold drive available
- Also available with narrow track crawler chassis – see LR 1600/2-W (page 28)

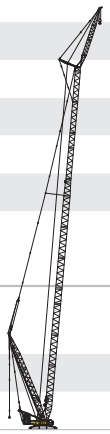
Main boom + fixed jib

Hub height	Max. capacity at radius	Hook height	System	
80 m	119 t x 18 m	93 m	SL3F	
80 m	137 t x 18 m	93 m	SL8F3	New!
100 m	105 t x 18 m	114 m	SL3F	
100 m	118 t x 18 m	114 m	SL8F3	New!
105 m	93 t x 18 m	117 m	SL3F	



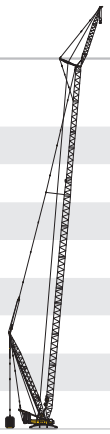
Main boom + derrick boom + fixed jib

Hub height	Max. capacity at radius	Hook height	System
100 m	107 t x 18 m	117 m	HSL4DF
120 m	87 t x 20 m	135 m	HSL4DF



Main boom + derrick system + fixed jib

Hub height	Max. capacity at radius	Hook height	System
135 m	79 t x 20 m	147 m	HSL4DFB
135 m	92 t x 20 m	147 m	SL10DFB
135 m	96 t x 20 m	147 m	SL13DFB
140 m	83 t x 24 m	152 m	SL10DFB
140 m	87 t x 24 m	152 m	SL13DFB
150 m	71 t x 24 m	161 m	SL10DFB2
150 m	75 t x 24 m	161 m	SL13DFB2
150 m	71 t x 24 m	164 m	SL13DFB2





Lattice Boom Crawler Crane LR 1750/2



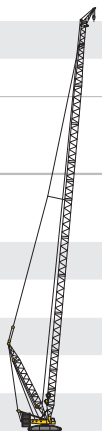
LR 1750/2	
max	750 t
	455 kW 618 HP
	245 t
	95 t
B BW	max. 400 t x 20 m
	8.8 m

- Especially wide operational spectrum due to extensive equipment
- Assembly jib at various boom systems useable with extensive flexibility
- Boom sections exchangeable with lattice boom mobile crane LG 1750
- Also available as static “Pedestal Crane“
- Sturdy chassis with large crawler drive system



Main boom + assembly jib

Hub height	Max. capacity at radius	Hook height	System
80 m	111 t x 18 m	101 m	HSL8HS
95 m	110 t x 18 m	109 m	HSL8HS



Main boom + derrick boom + assembly jib

Hub height	Max. capacity at radius	Hook height	System
120 m	94 t x 18 m	136 m	HSL8DHS
120 m	108 t x 18 m	136 m	HSL7DHS
130 m	81 t x 18 m	144 m	HSL8DHS
130 m	98 t x 20 m	144 m	HSL7DHS
140 m	89 t x 22 m	150 m	HSL7DHS



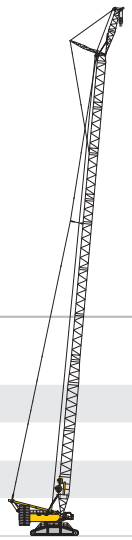
Lattice Boom Crawler Crane LR 11000

LR 11000

max	1000 t
	500 kW 680 HP
	250 t
	90 t
B BW	max. 450 t x 20 m
B2	max. 450 t x 30 m
	9.2 m



- Excellent capacities over the complete working range
- Variable boom systems for the erection of wind power plants
- Also deployable with great flexibility in wind parks without derrick system
- Enormous capacity increases with PowerBoom
- Transportation optimized dimensions and weights
- Outstanding assembly times due to simple set-up concept

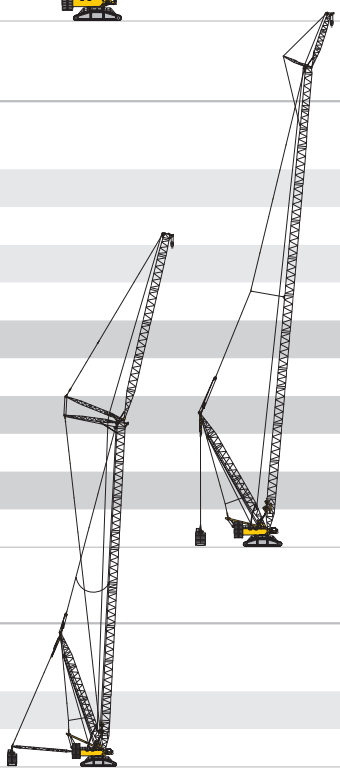


Main boom + fixed jib

Hub height	Max. capacity at radius	Hook height	System
100 m	179 t x 18 m	114 m	SL3F
105 m	173 t x 18 m	120 m	SL3F
110 m	152 t x 18 m	126 m	SL3F
120 m	116 t x 20 m	132 m	SL3F

Main boom + derrick system + fixed jib

Hub height	Max. capacity at radius	Hook height	System
120 m	179 t x 20 m	132 m	SL2DFB
120 m	179 t x 20 m	132 m	SL4DFB
140 m	133 t x 22 m	156 m	SL2DFB
140 m	169 t x 22 m	156 m	SL4DFB
150 m	118 t x 22 m	162 m	SL2DFB
150 m	154 t x 22 m	162 m	SL4DFB
155 m	140 t x 24 m	168 m	SL4DFB2
160 m	120 t x 26 m	174 m	SL4DFB2
180 m	73 t x 22 m	192 m	SL4DFB2
185 m	54 t x 34 m	198 m	SL4DFB2



Main boom P + derrick system + heavy luffing jib

Hub height	Max. capacity at radius	Hook height	System
130 m	227 t x 28 m	147 m	PDW3B
165 m	142 t x 26 m	174 m	PDW3B2



Lattice Boom Crawler Crane
LR 11350



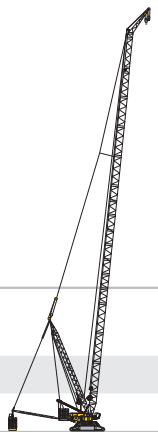
LR 11350	
max	1350 t
	641 kW 870 HP
	340 t
	30 t
B BW	max. 600 t x 25 m
B2 BW2	max. 600 t x 30 m
	11 m

- Heavy duty crane – also appropriate for use at wind generators at large installations in the near- and offshore areas
- Transportation optimized, no part wider than 3.5 m and heavier than 45 t
- Large and well-arranged crane cab with outstanding panorama view
- Operation also without derrick system
- Self-assembly of the crawler tracks

Preliminary

Main boom + derrick system + assembly jib

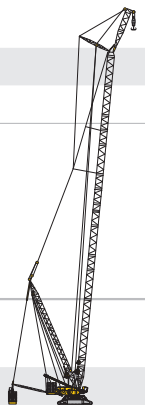
Hub height	Max. capacity at radius	Hook height	System
140 m	246 t x 28 m	152 m	SL2DHS
150 m	184 t x 24 m	165 m	SL2DHSB



Preliminary

Main boom P + derrick system + fixed jib

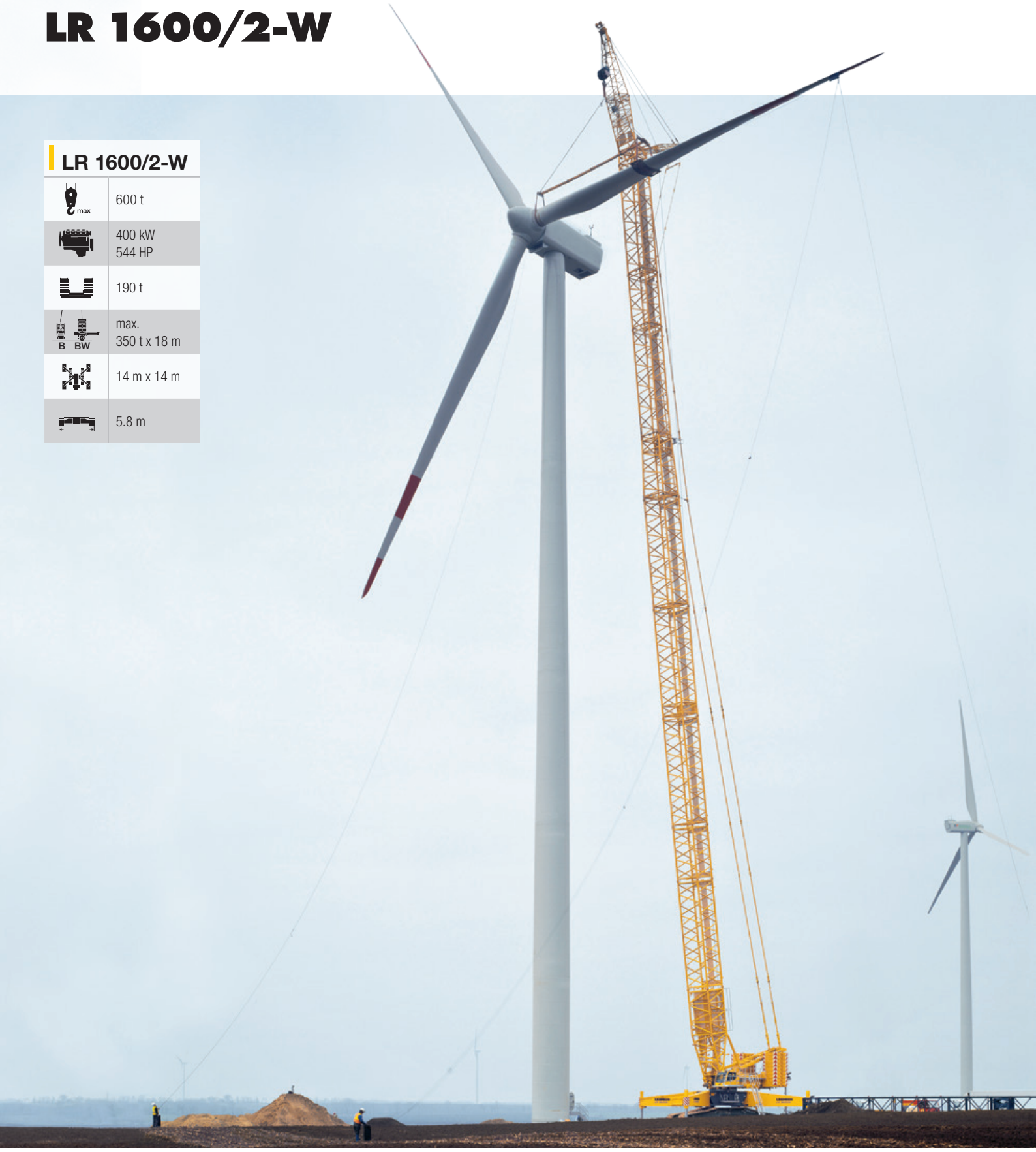
Hub height	Max. capacity at radius	Hook height	System
140 m	370 t x 24 m	153 m	PD2FB





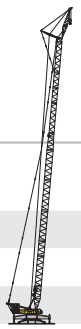
Narrow Track Lattice Boom Crawler Crane LR 1600/2-W

LR 1600/2-W	
Q_{max}	600 t
	400 kW 544 HP
	190 t
B BW	max. 350 t x 18 m
	14 m x 14 m
	5.8 m



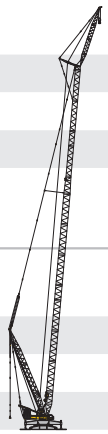
Now with SL13

- Optimal driving on narrow roads, total width of the crawler chassis only 5.8 m
- High safety during driving as the support plates can be kept close to the ground and the folding beams can be adapted to the available road width
- Driving with 108 m main boom and 12 m fixed jib
- High stability during crane operation due to crane supports
- 2 m-crawler plates, quick connection and 4-fold crawler drive standard
- Radio remote control for driving and supporting



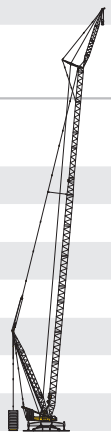
Main boom + fixed jib

Hub height	Max. capacity at radius	Hook height	System
80 m	132 t x 18 m	95 m	SL3F
100 m	106 t x 18 m	112 m	SL3F
105 m	92 t x 18 m	119 m	SL3F



Main boom + derrick boom + fixed jib

Hub height	Max. capacity at radius	Hook height	System
100 m	137 t x 18 m	112 m	SL4DF
120 m	115 t x 20 m	130 m	SL4DF
120 m	104 t x 20 m	136 m	SL4DF



Main boom + derrick system + fixed jib

Hub height	Max. capacity at radius	Hook height	System	
100 m	131 t x 18 m	112 m	SL4DFB	
120 m	109 t x 20 m	130 m	SL4DFB	
120 m	98 t x 20 m	136 m	SL4DFB	
130 m	76 t x 22 m	148 m	SL4DFB	
130 m	100 t x 22 m	148 m	SL13DFB	New!
150 m	73 t x 24 m	162 m	SL13DFB2	New!
150 m	70 t x 24 m	165 m	SL13DFB2	New!

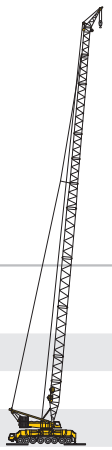


Lattice Boom Mobile Crane
LG 1750

LG 1750	
Q_{max}	750 t
	505 kW 686 HP
	455 kW 618 HP
	245 t
B BW	max. 400 t x 20 m
	16 m x 16 m 12 m x 12 m
km/h	80

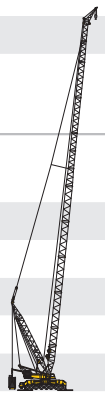


- Strongest lattice boom mobile crane worldwide
- Combination of the flexibility of a 750 t crawler crane with the mobility of a mobile crane
- Basic crane can be driven on regular roads within 3 m width
- SL8HS for 105 m turbines without derrick system – extendable with derrick system for hook heights of 146 m
- Heavy duty wind power equipment SL9 for 155 m hook height, SL12 for 160 m hook height
- Greatest number of available wind power configurations – SL8, SL7, SL9, SL12



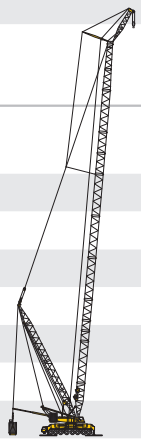
Main boom + assembly jib

Hub height	Max. capacity at radius	Hook height	System
80 m	114 t x 18 m	103 m	SL8HS
100 m	109 t x 18 m	117 m	SL8HS
105 m	101 t x 18 m	120 m	SL8HS



Main boom + derrick boom + assembly jib

Hub height	Max. capacity at radius	Hook height	System
120 m	92 t x 18 m	138 m	SL8DHS
120 m	105 t x 18 m	138 m	SL7DHS
130 m	83 t x 18 m	145.5 m	SL8DHS
130 m	95 t x 20 m	145.5 m	SL7DHS
140 m	86 t x 20 m	152 m	SL7DHS



Main boom + derrick system + fixed jib

Hub height	Max. capacity at radius	Hook height	System
120 m	142 t x 22 m	132 m	SL9D2FB
130 m	109 t x 26 m	144 m	SL9D2FB
133 m	141 t x 28 m	142.5 m	SL12D2FB
140 m	101 t x 30 m	152 m	SL9D2FB
140 m	86 t x 30 m	155.5 m	SL9D2FB
150 m	97 t x 32 m	159.5 m	SL12D2FB
150 m	79 t x 34 m	164 m	SL12D2FB

Partner of the wind power industry

Liebherr is a strong partner for the wind power industry. Liebherr earthmoving machines, offshore cranes and mobile and crawler cranes are used for the building of wind parks. Single Liebherr components like drives and engines are installed directly at the facilities and Liebherr gear cutting machines play an ever more important role in the wind power.



Earthmoving equipment and mixing technology
During building of wind parks Liebherr earthmoving machines haven proven their worth. For the foundations of the wind generator units mobile concrete mixer plants and mobile mixers from Liebherr are used, at the building sites of reinforced towers special stationary units.

Offshore Cranes
For the erection of offshore wind power plants Liebherr also offers convincing solutions. All requirements can be met: diesel driven or electric drive units, explosion proved cranes or safety area cranes as well as cranes for operation at ambient temperatures from +40 centigrade to -50 centigrade.

Components
Liebherr is the only manufacturer worldwide who not only can deliver single components but also with large diameter roller bearings, slewing drives, electric motors and hydraulic cylinders can offer the complete system for the electro-mechanic and hydraulic rotor blade and azimuth adjustment in wind power generators.

Machine tools and automation technology
Gear cutting machines from Liebherr contribute significantly to geared parts in e. g. main gearboxes to fulfill the high quality requirements. Automation technology from Liebherr caters for high productivity for the rotor blade fabrication.

www.liebherr.com

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