EN-US

HS 8040.1

HS 8002.02
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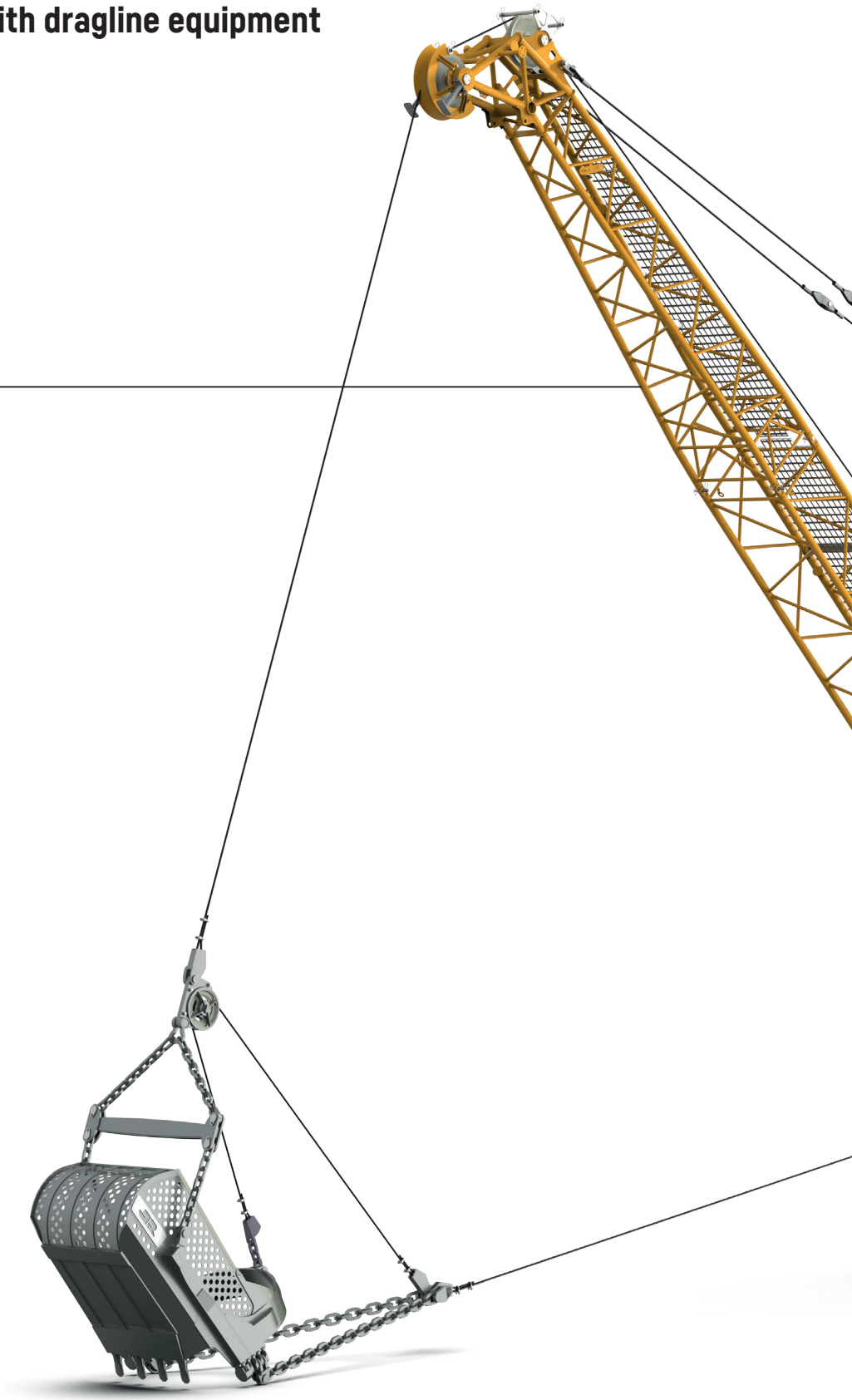
LIEBHERR

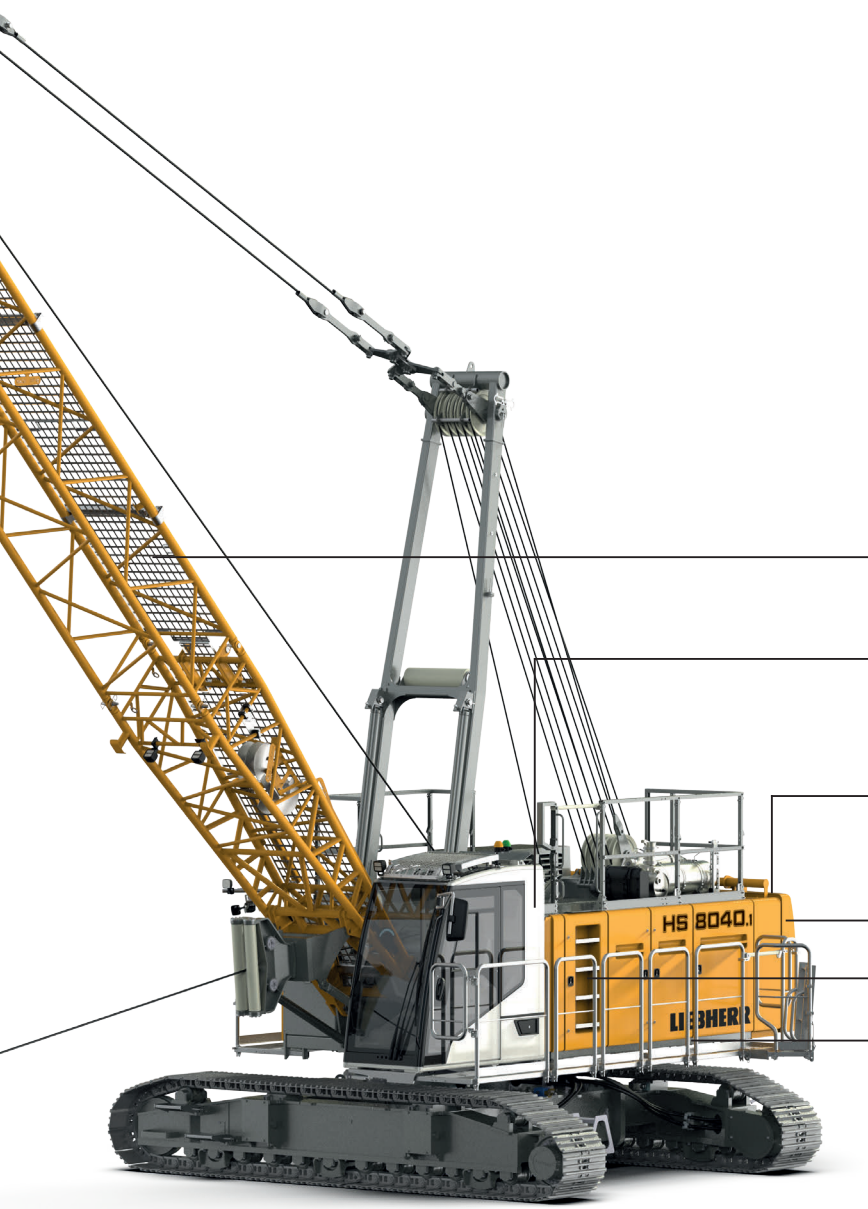
Construction machines

Concept and characteristics

Long version HS 8040.1 with dragline equipment

Main boom 1108.20
134 ft lifting operation
85 ft duty cycle operation





Walkways covering the whole width of the boom (safe access)

Cabin with high comfort: optimized view, improved soundproofing, orthopaedic seat

19.7 inch spacer as an option (5 % higher lifting capacities)

Counterweight 17,600 lbs (11.5 ft swing radius)

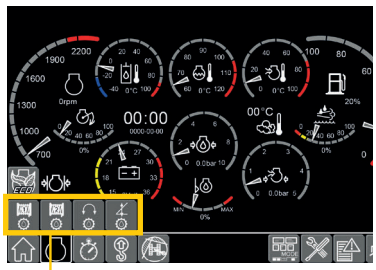
Integrated ladder

Slide-in platforms

The newly developed cabin combines operator comfort with easy handling.

Air conditioning combined with an air-suspended seat offers an ideal workplace for the operator.

- Completely new cabin design focusing on
- ergonomics and operating comfort
- Improved soundproofing
- Orthopaedic seat, heatable, coolable and
- ventilated
- Individually adjustable monitors
- Integrated cool box for storage of provisions
- Charger for mobile devices
- Front window made of safety glass
- Heated outside mirror
- Option: Piling control incl. cabin protection and armoured glass



Gear oil level warning
The new warning allows the operator to check the gear oil levels of both main winches, the swing drive and the luffing winch. This facilitates daily maintenance of the machine.

Example

Gear oil level warning of winch 1 lights up green: Gear oil level of winch 1 is sufficient.

Gear oil level warning of winch 1 lights up yellow after ten seconds: fill gear oil for winch 1.

Ground Pressure Visualization

Remarks

- Liebherr cable excavator HS 8002.02
- Designed according to EN 474–1 and EN 474–12. Designed and tested in accordance to ASME B 30.5
- Machine standing on firm, horizontal ground.
- The weight of the lifting device (pulley block, hoist ropes, shackles etc.) must be deducted from the load capacity.
- Additional equipment on boom (e.g. walkways) must be deducted from the lifting capacity.
- For max. wind speed please refer to lift chart in operator's cab or manual.
- Working radii are measured from centre of swing and under load.
  The lifting capacities are valid for 360 degrees of swing.
- Weights may vary depending on the delivered configuration of the machine filling level of the tanks as well as generally valid tolerances.
- The figures in this brochure may include options which are not within the standard scope of supply of the machine.

Technical description

Diesel engine

Power rating according to ISO 9249	230 kW (308 hp) at 1700 rpm
Engine type	Liebherr D 944 A7-05
Fuel tank capacity	121 gal with continuous level indicator and reserve warning
AdBlue tank capacity	12 gal with continuous level indicator and reserve warning
Exhaust certification	EU Stage V/EPA CARB Tier 4F non-certified emission standard
ECO-Silent Mode	For work not requiring high engine power, the diesel engine can be operated in the ECO-Silent Mode (e.g. for inserting reinforcement cages, for dragline or lifting operation). Due to the ECO-Silent Mode which can be preselected by the operator the engine runs with optimum fuel efficiency. This lowers consumption and reduces noise emission.

Noise measurement data and vibration

Noise emission	according to 2000/14/EC directive	
Emission sound pressure level L_{PA}	73.4 dB(A)	(in the cabin)
Guaranteed sound power level L_{WA}	106 dB(A)	(of the machine)
Vibration transmitted to the machine operator	< 8.2 ft/s²	(to the hand-arm system)
	< 1.64 ft/s²	(to the whole body)

Hydraulic system

Hydraulic pumps	variable pumps in closed and open circuits supplying oil only when needed (flow control on demand)
Hydraulic oil tank capacity	185 gal
Max. working pressure	5,076 PSI
Hydraulic oil	electronic monitoring of all filters use of synthetic environmentally friendly oil possible

Hoisting gear

Main winches	The winches are outstanding in their compact design and easy assembly. Clutch and braking functions on the free-fall system are provided by a compact designed, low wear and maintenance-free multi-disc brake. The drag and hoist winches use pressure controlled, variable flow hydraulic motors. This system features sensors that automatically adjust oil flow to provide max. winch speed depending on load.
Line pull (nominal load)	26,977 lbf
Rope diameter	22 mm
Drum diameter	1.84 ft
Rope speed	0-410 ft/min
Rope capacity in the 1st layer	115.5/133 ft
Rope capacity in the 3rd layer	133 ft
Option	
Tagline winch	4,496 lbf with free fall

Boom winch

Line pull	max. 16,186 lbf
Rope diameter	18 mm
Boom luffing	15-84° in 48 s

Crawlers

Drive system	with fixed axial piston hydraulic motors
Crawler side frames	maintenance-free, with hydraulic chain tensioning device
Brake	hydraulically released, spring-loaded multi-disc holding brake
Drive speed	0-1.24 mph
Grousers	3-web grousers, width 2.3 ft, transport width 9.8 ft
Options	3-web grousers, width 2.6 ft, transport width 11 ft 2-speed hydraulic motor for higher drive speed

Swing gear

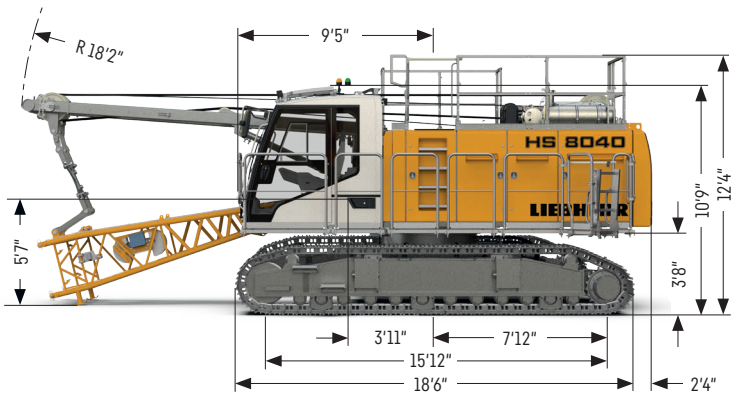
Drive system	swing drives, with fixed axial piston hydraulic motors, planetary gearbox, pinion
Swing ring	Roller bearing with internal teeth
Brake	hydraulically released, spring-loaded multi-disc holding brake
Swing speed	0-4.6 rpm continuously variable, selector for 3 speed ranges to increase swing precision
Lubrication system	automatic central lubrication system reduces maintenance requirements and increases service life
Option	Display of swing angle

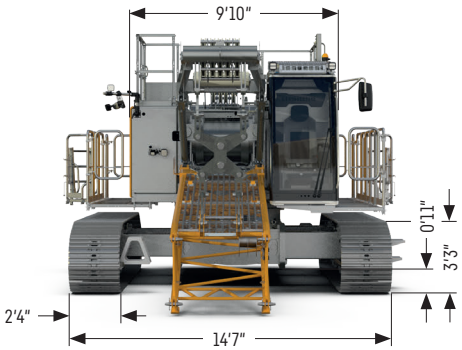
Control

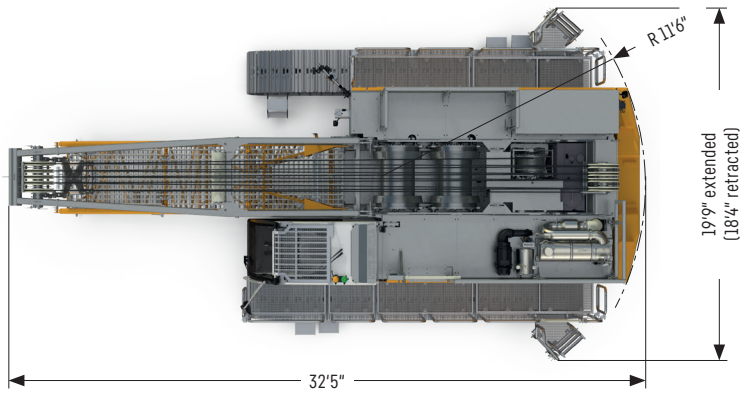
Control	includes all control and monitoring functions, designed to withstand extreme environmental conditions and heavy duty construction tasks
Display	high resolution monitor in the operator's cabin, clear display of complete machine operating data, warnings and failure indications in the required language
Operation	several movements can be performed simultaneously thanks to electro-hydraulic proportional control, all categories of loads can be positioned with utmost precision
Options	PDE*: process data recording LiTU: Liebherr Telematics Unit

Dimensions

Compact version 17,600 lbs at 11.5 ft radius







Ground pressure

Ground pressure	8.96 PSI

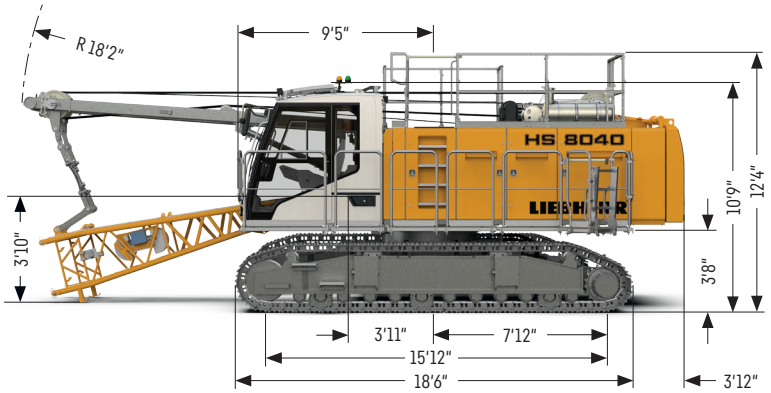
Operating weight

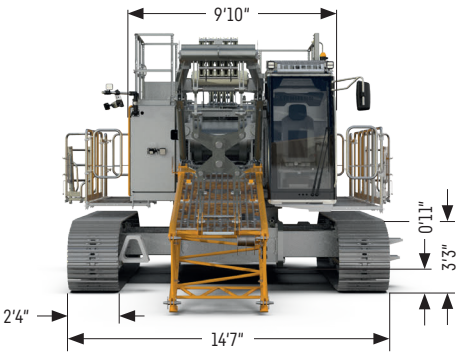
Composition of operating weight	Basic machine with undercarriage, 2 main winches 26,977 lbf including wire ropes (229.7 ft), 36 ft main boom, consisting of A-frame, boom foot (15.7 ft), boom head (20.34 ft), 17,600 lbs basic counterweight, 2.3 ft 3-web grousers, 88,185 lbs hook block
Total weight	approx. 95,000 lbs

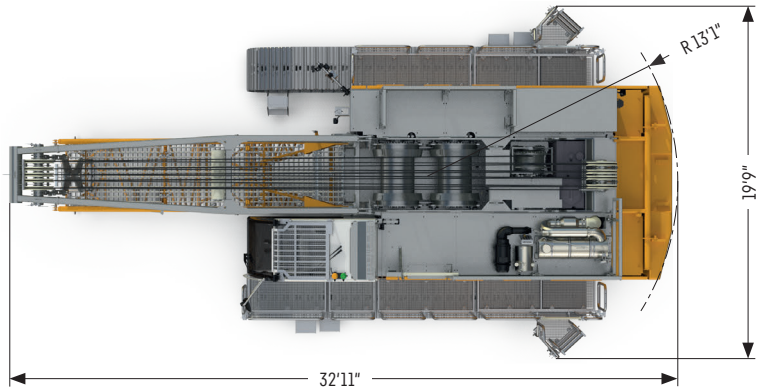
Equipment

Main boom (1108.20)	max. 134.5 ft
Characteristics	modular designed equipment for lifting, dragline or clamshell operation for dragline operation, a rotating fairlead is fitted into the boom foot minimized rope angle to drum resulting in lower rope wear

Long version 18,500 lbs at 13.1 ft radius







Ground pressure

Ground pressure	9.02 PSI

Operating weight

Composition of operating weight	Basic machine with undercarriage, 2 main winches 26.97 lbf including wire ropes (229.7 ft), 36 ft main boom, consisting of A-frame, boom foot (15.7 ft), boom head (20.34 ft), 18,500 lbs basic counterweight, 2.3 ft 3-web grousers, 88,185 lbs hook block
Total weight	approx. 95,000lbs

Equipment

Main boom (1108.20)	134.5 ft
Characteristics	modular designed equipment for lifting, dragline or clamshell operation for dragline operation, a rotating fairlead is fitted into the boom foot minimized rope angle to drum resulting in lower rope wear

Slurry wall grab

Maximum capacity in duty cycle operation with standard ropes

Line pull (1st layer)	lbf	26,977
Rope diameter	mm	22
Minimum breaking load	lbf	95,769
Line pull - 1-rope duty cycle operation	lbf	26,977

Capacities in slurry wall operation are for reference only and are not programmed in the LML system. All loads and counterweight configurations are max. values and must not be exceeded. Weight of additional equipment on boom (e.g. walkways etc.) must be deducted from the lifting capacity.

Max. lifting capacity with mechanical grab is 26,455 lbs. Stability calculated according to EN 16228-5. Machine standing on firm, horizontal ground.

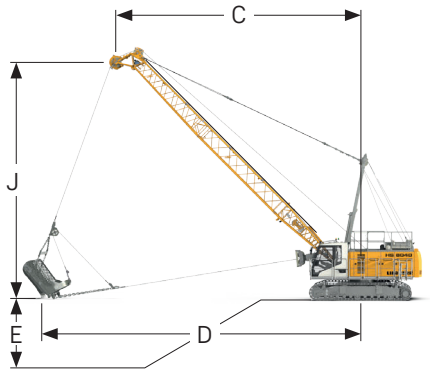
Load chart for slurry wall operation

Capacities in [1000 lbs]

Radius [ft]	Boom length [ft] 36		46		56		66		76		85	
	17.6*	18.5**	17.6*	18.5**	17.6*	18.5**	17.6*	18.5**	17.6*	18.5**	17.6*	18.5**
15	26.5	26.5	26.5	26.5	26.5	26.5						
20	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5
25	23.7	24.5	23.9	24.5	23.9	24.7	23.7	24.5	23.7	24.5	23.7	24.5
30	18.1	19.2	18.3	19.4	18.4	19.4	18.1	19.2	18.1	19.2	18.1	19.2
35	14.4	15.3	14.5	15.5	14.6	15.5	14.5	15.5	14.4	15.3	14.3	15.3
40	11.6	12.4	11.9	12.7	11.9	12.7	11.9	12.7	11.9	12.5	11.7	12.5
45			10.0	10.7	10.0	10.7	10.0	10.7	9.9	10.5	9.8	10.5
50					8.6	9.0	8.4	9.0	8.4	9.0	8.2	8.8
55					7.3	7.9	7.2	7.7	7.2	7.7	7.0	7.7
60							6.3	6.7	6.2	6.6	6.0	6.5
65							5.4	5.9	5.4	5.8	5.2	5.6
70									4.7	5.1	4.6	4.9
75									4.0	4.5	4.0	4.3
80											3.4	3.8
85											2.9	3.3

* Rear counterweight [1000 lbs] at 11.5 ft radius
** Rear counterweight [1000 lbs] at 13.1 ft radius

Dragline equipment



Digging diagram
C = Radius / dumping radius
D = Max. digging radius = approx. C + 1/3 to 1/2 J
E* = Digging depth = approx. 40– 50 % of C
J = Height to centre rope pulley boom head
*The depth of cut, casting distance and digging reach may vary considerably depending on digging conditions, design of bucket and operator's skill. Maximum digging depths are attainable under ideal conditions and cannot be guaranteed.

Capacities in dragline operation

Capacities in [1000 lbs]

		Boom length [ft]											
		36				46				56			
		C	J	Rear counterweight		C	J	Rear counterweight		C	J	Rear counterweight	
		[ft]	[ft]	17.6*	18.5**	[ft]	[ft]	17.6*	18.5**	[ft]	[ft]	17.6*	18.5**
alpha [°]	55	27.3	33.1	**25.0**	**25.6**	33.0	41.2	**20.7**	**21.9**	38.7	49.3	**17.6**	**17.6**
	50	29.8	31.1	**23.5**	**24.8**	36.1	38.6	**18.2**	**19.3**	42.4	46.1	**15.5**	**15.5**
	45	32.2	28.7	**21.7**	**23.0**	38.9	35.7	**16.4**	**17.4**	45.8	42.7	**13.9**	**13.9**
	40	33.8	26.2	**19.9**	**21.0**	41.4	32.6	**15.0**	**15.9**	48.9	39.0	**12.6**	**12.6**
	35	35.5	23.6	**18.4**	**19.5**	43.6	29.3	**14.0**	**14.8**	51.7	34.9	**11.7**	**11.7**
	30	36.7	20.7	**17.6**	**18.7**	44.9	26.6	**13.2**	**13.9**	54.2	30.7	**10.9**	**10.9**
	25	38.0	17.8	**16.8**	**17.8**	46.6	29.9	**12.3**	**13.2**	55.4	26.9	**9.7**	**10.4**

* Rear counterweight [1000 lbs] at 11.5 ft radius
** Rear counterweight [1000 lbs] at 13.1 ft radius
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Capacities in [1000 lbs]

		Boom length [ft]											
		66				76				85			
		C	J	Rear counterweight		C	J	Rear counterweight		C	J	Rear counterweight	
		[ft]	[ft]	17.6*	18.5**	[ft]	[ft]	17.6*	18.5**	[ft]	[ft]	17.6*	18.5**
alpha [°]	55	44.3	57.4	**14.4**	**14.4**	50.0	65.4	**12.1**	**12.1**	55.6	73.5	**10.3**	**10.3**
	50	48.7	53.7	**12.7**	**12.7**	55.1	61.3	**10.6**	**10.6**	61.4	68.7	**8.9**	**8.9**
	45	52.8	49.7	**11.3**	**11.3**	59.8	56.7	**9.3**	**9.3**	66.7	63.6	**7.8**	**7.8**
	40	56.5	45.3	**10.2**	**10.2**	64.1	51.6	**8.4**	**8.4**	71.5	58.0	**7.0**	**7.0**
	35	59.9	40.7	**9.3**	**9.3**	67.8	46.3	**7.7**	**7.7**	75.9	52.0	**6.4**	**6.4**
	30	62.6	35.6	**8.7**	**8.7**	71.4	40.6	**7.0**	**7.0**	79.8	45.6	**5.8**	**5.8**
	25	64.3	31.2	**7.7**	**8.2**	74.0	34.7	**6.7**	**6.7**	82.9	38.8	**5.5**	**5.5**

* Rear counterweight [1000 lbs] at 11.5 ft radius
** Rear counterweight[1000 lbs] at 13.1 ft radius
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Casing oscillator and clamshell

Dredging assistant (option)

Further information on material handling

Casing oscillator

Max. drilling diameter	ft	3.94

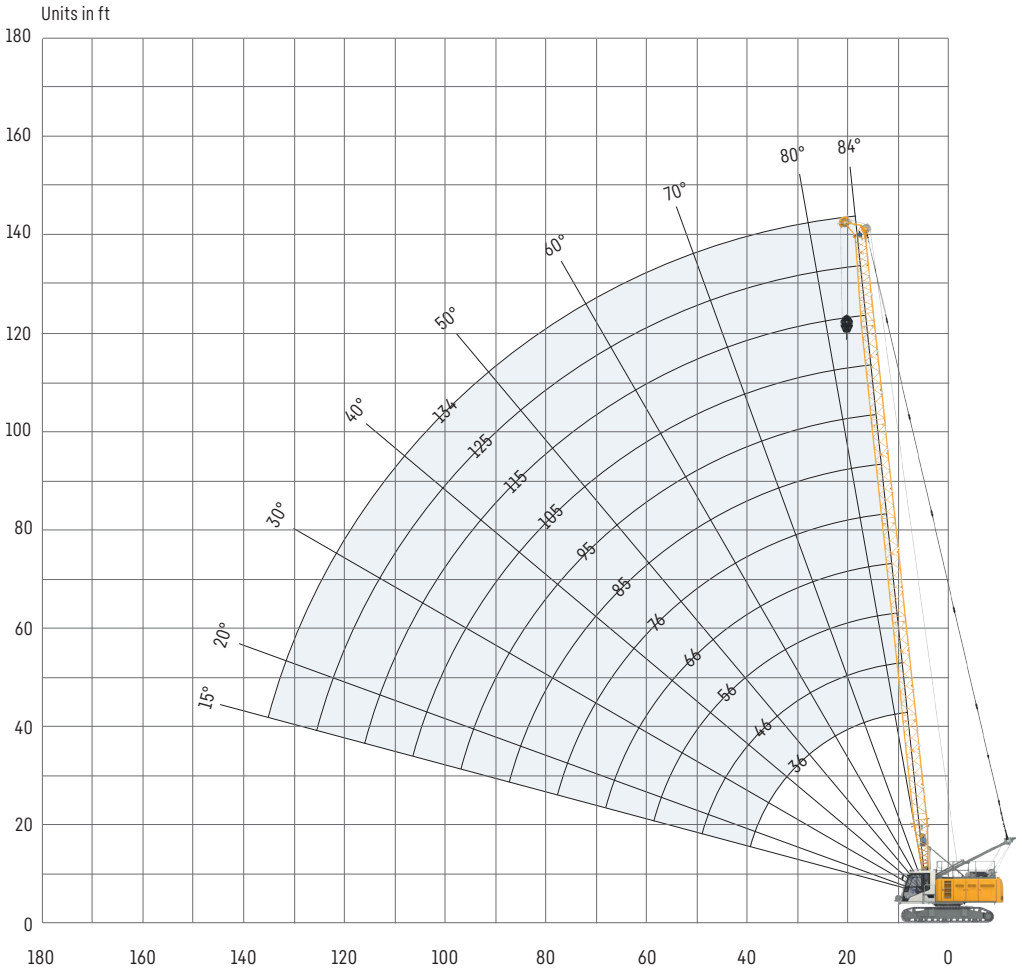
Capacities in [1000 lbs]

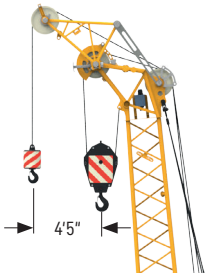
Radius [ft]	Boom length [ft]											
	36		46		56		66		76		85	
	17.6*	18.5**	17.6*	18.5**	17.6**	18.5**	17.6*	18.5**	17.6*	18.5**	17.6*	18.5**
15	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4				
20	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4
25	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4	26.4
30	20.6	21.8	20.7	21.9	20.7	21.9	20.7	21.9	20.6	21.8	20.6	21.8
35	16.5	17.5	16.7	17.6	16.7	17.7	16.7	17.6	16.6	17.6	16.5	17.5
40	13.6	14.4	13.8	14.6	13.9	14.7	13.8	14.7	13.8	14.6	13.7	14.5
45			11.7	12.4	11.8	12.5	11.7	12.4	11.7	12.4	11.6	12.3
50					10.1	10.7	10.1	10.7	10.0	10.7	9.9	10.6
55					8.8	9.3	8.8	9.3	8.7	9.3	8.6	9.2
60							7.7	8.2	7.7	8.2	7.6	8.1
65							6.8	7.3	6.8	7.2	6.7	7.2
70									6.0	6.5	5.9	6.4
75									5.4	5.8	5.3	5.7
80											4.7	5.1
85											4.2	4.6

***** Rear counterweight [1000 lbs] at 11.5 ft radius
****** Rear counterweight [1000 lbs] at 13.1 ft radius

TLT13123196 285243. Stability calculated according to EN 474-12.
Max. capacities do not exceed 66% of tipping load.
Above capacities are for reference only and are not programmed in the LMI system.
Max. lifting capacity with mechanical grab is 12 metric tonnes.

Lifting operation





Auxiliary jib 26,455 lbs
The maximum capacity of the auxiliary jib is 26,455 lbs. The corresponding load chart is programmed in the LML system.

Main boom configuration

	Amount of boom sections										
Boom foot 16 ft	1	1	1	1	1	1	1	1	1	1	1
Boom section 10 ft		1		1		1		1		1	
Boom section 20 ft			1	1	2	2	3	3	4	4	5
Boom head 20 ft	1	1	1	1	1	1	1	1	1	1	1
Boom length [ft]	**36**	**46**	**56**	**66**	**76**	**85**	**95**	**105**	**115**	**125**	**134**
Auxiliary jib	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Capacities in [1000 lbs]

Radius [ft]	Boom length [ft]																					
	36		46		56		66		76		85		95		105		115		125		134	
	17.6*	18.5**	17.6*	18.5**	17.6*	18.5**	17.6*	18.5**	17.6*	18.5**	17.6*	18.5**	17.6*	18.5**	17.6*	18.5**	17.6**	18.5**	17.6*	18.5**	17.6*	18.5**
10.1	88.2	88.2																				
15	66.1	69.8	62.3	65.7	58.7	62.0	55.5	58.6	52.5	55.5												
20	42.4	44.7	42.5	44.8	41.5	43.9	39.7	42.0	38.0	40.2	36.5	38.6	35.0	37.0	33.6	35.5	32.2	34.1	31.0	32.8		
25	30.3	32.0	30.4	32.1	30.5	32.2	30.4	32.1	29.5	31.3	28.4	30.1	27.4	29.0	26.4	28.0	25.5	27.0	24.5	26.1	23.6	25.1
30	23.3	24.6	23.4	24.8	23.5	24.8	23.4	24.8	23.4	24.7	23.1	24.5	22.3	23.7	21.6	22.9	20.8	22.1	20.1	21.4	19.4	20.6
35	18.7	19.8	18.9	20.0	18.9	20.0	18.9	20.0	18.8	19.9	18.7	19.8	18.6	19.7	18.1	19.2	17.5	18.6	16.8	17.9	16.2	17.3
40	15.4	16.4	15.7	16.6	15.8	16.7	15.7	16.7	15.6	16.6	15.6	16.5	15.5	16.4	15.3	16.3	14.9	15.9	14.4	15.3	13.8	14.8
45			13.3	14.1	13.4	14.2	13.3	14.1	13.3	14.1	13.2	14.0	13.0	13.9	12.9	13.7	12.8	13.6	12.4	13.3	11.9	12.7
50					11.5	12.2	11.5	12.2	11.4	12.1	11.3	12.0	11.2	11.9	11.1	11.8	10.9	11.7	10.8	11.5	10.3	11.1
55					10.0	10.6	10.0	10.6	9.9	10.6	9.8	10.5	9.7	10.4	9.6	10.2	9.5	10.1	9.3	10.0	9.0	9.7
60							8.7	9.3	8.7	9.3	8.6	9.2	8.5	9.1	8.4	9.0	8.3	8.8	8.1	8.7	7.9	8.6
65							7.7	8.2	7.7	8.2	7.6	8.1	7.5	8.0	7.4	7.9	7.2	7.8	7.1	7.6	6.9	7.5
70									6.8	7.3	6.8	7.2	6.7	7.2	6.5	7.0	6.4	6.9	6.3	6.8	6.1	6.6
75									6.1	6.5	6.0	6.5	5.9	6.4	5.8	6.3	5.7	6.1	5.5	6.0	5.4	5.9
80											5.4	5.8	5.3	5.7	5.2	5.6	5.0	5.5	4.9	5.3	4.8	5.2
85											4.8	5.2	4.7	5.1	4.6	5.0	4.5	4.9		4.8		
90														4.6		4.5						

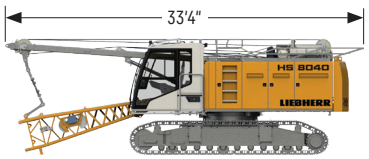
* Rear counterweight [1000 lbs] at 11.5 ft radius

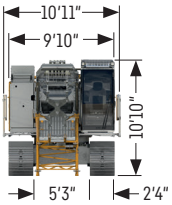
** Rear counterweight [1000 lbs] at 13.1 ft radius

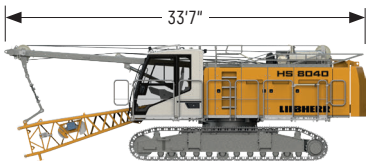
TLT11935750 305701. Above load charts are for reference only.
For actual lift duty please refer to load chart in operator's cabin or manual.
Load charts for lifting operation are valid with classification according to ISO 4301-1/1986, group A.

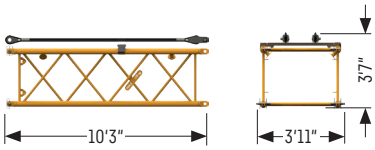
Transport dimensions and weights

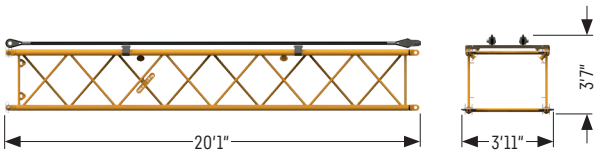
Basic machine and main boom (1108.20)

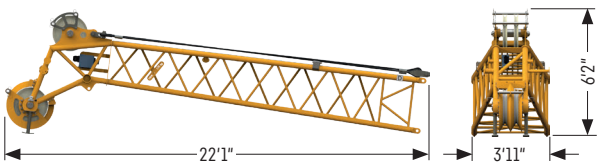












Basic machine (compact version)

with undercarriage, boom foot (1108.20), A-frame, 2x 26,977 lbf winches including wire ropes (230 ft), with basic counterweight and crawlers

Width	inch	118
Weight with 2.3 ft 3-web grousers	lbs	89,728
Weight with 2.7 ft 3-web grousers (option)	lbs	90,323
Weight of hoist ropes (2x 230 ft)	lbs ft	1.58

Basic machine (long version)

with undercarriage, platforms and boom foot (1108.20), A-frame, 2x 26,977 lbf winches including wire ropes (230 ft), with basic counterweight and crawlers

Width	inch	132
Weight with 2.3 ft 3-web grousers	lbs	90,478
Weight with 2.7 ft 3-web grousers (option)	lbs	91,073
Weight of hoist ropes (2x 230 ft)	lbs ft	1.58

Boom section 10 ft (1108.20)

Weight incl. pendant ropes	lbs	575

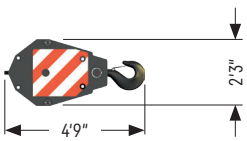
Boom section 20 ft (1108.20)

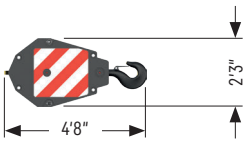
Weight incl. pendant ropes	lbs	985

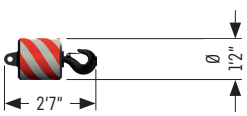
Boom head (1108.20)

Weight incl. pendant ropes	lbs	2,366

Hooks







88,185 lbs hook block – 2 sheaves

Width	inch	10.5
Weight	lbs	1,102

52,911 lbs block – 2 sheaves

Width	inch	8.7
Weight	lbs	926

17,637 lbs hook block – 1 sheave

Weight	lbs	661

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