EN

HS 8040.1

HS 8002.02
www.liebherr.com

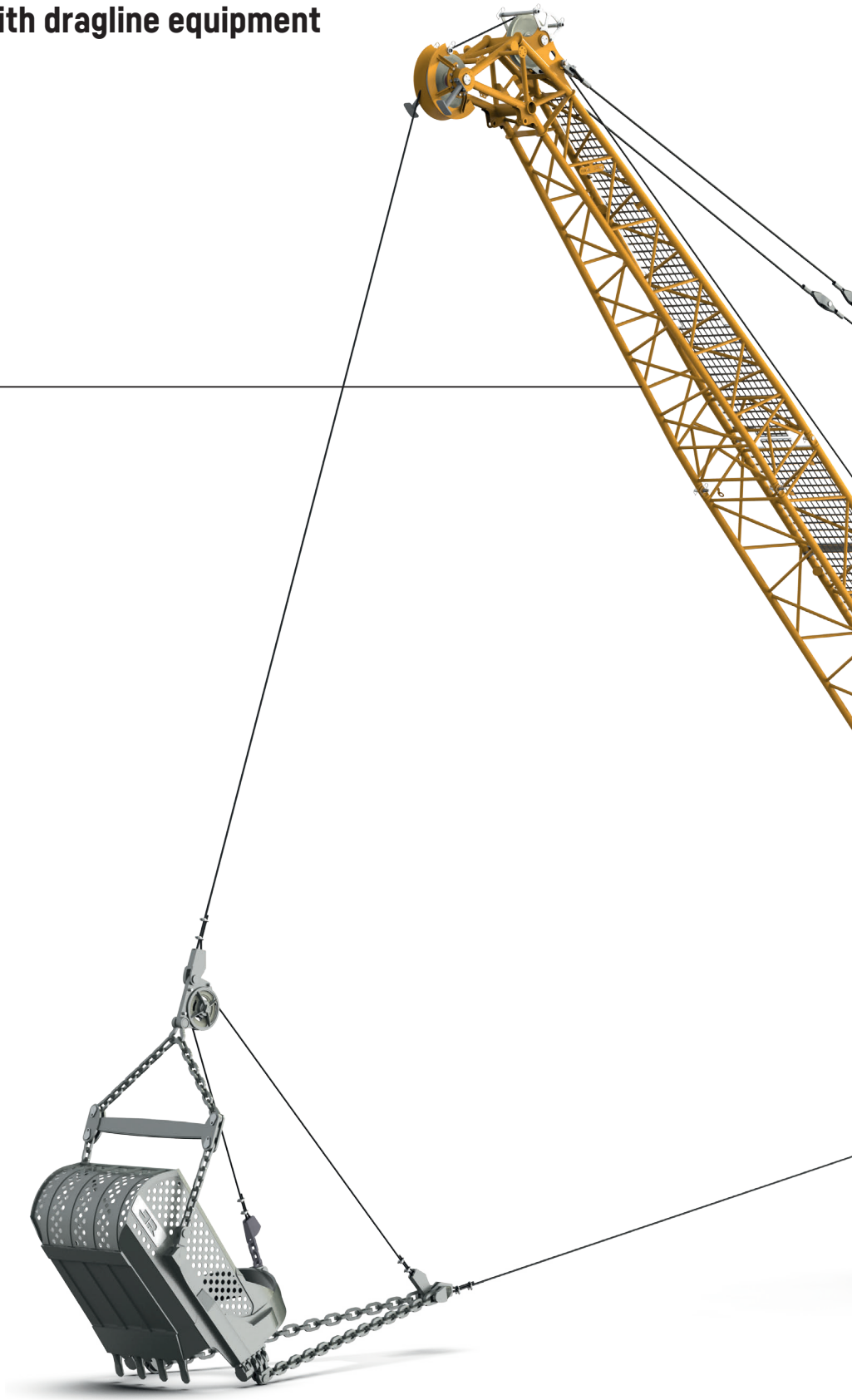
LIEBHERR

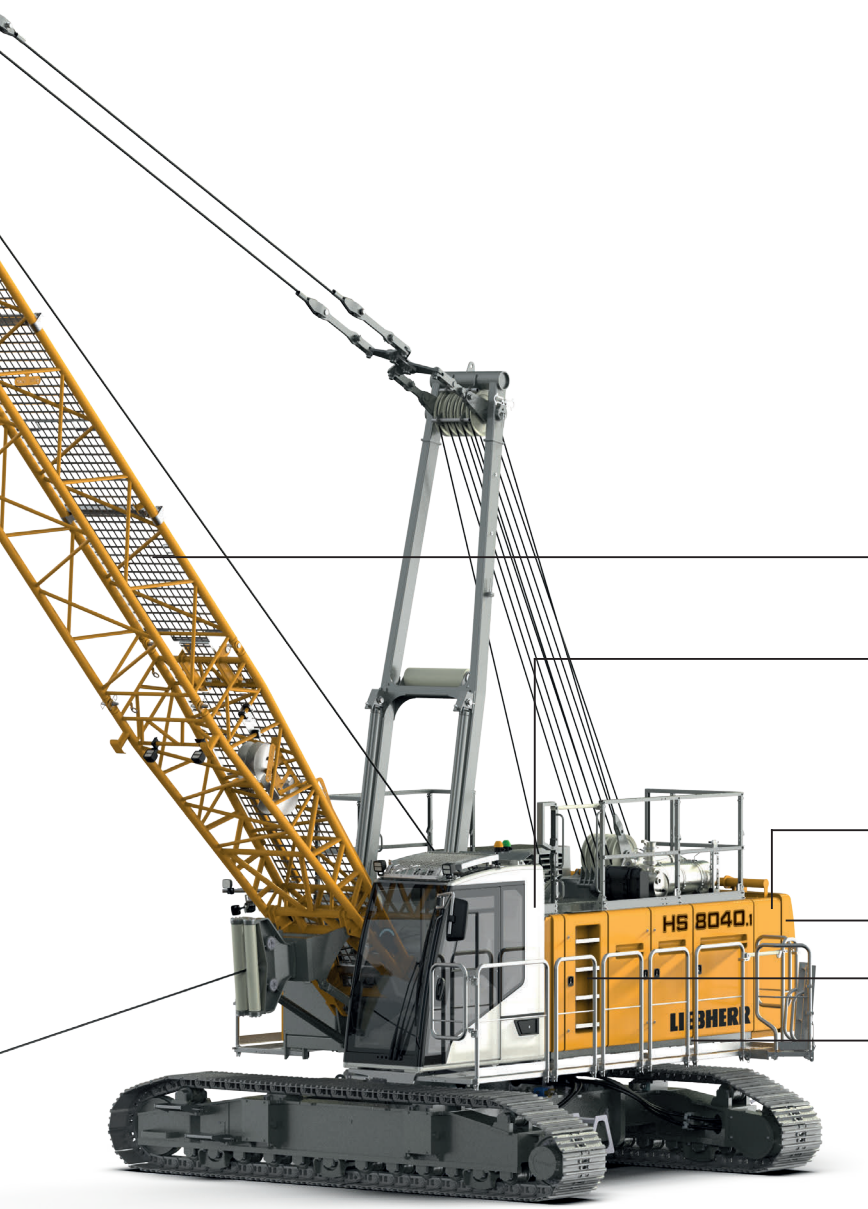
Construction machines

Concept and characteristics

Long version HS 8040.1 with dragline equipment

Main boom 1108.20
41 m lifting operation
26 m duty cycle operation





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

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

500 mm spacer as an option (5 % higher lifting capacities)

Counterweight 8 t (3.5 m swing radius)

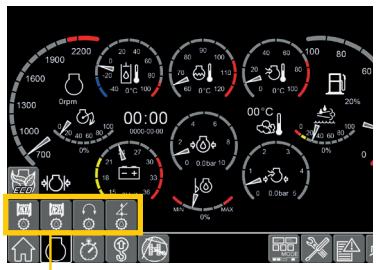
Integrated ladder

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.
- 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.
- The last digits of the given dimensions are rounded to 0 and 5 and may differ from the actual dimensions.
- 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	460 l with continuous level indicator and reserve warning
AdBlue tank capacity	46 l 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	< 2.5 m/s²	(to the hand-arm system)
	< 0.5 m/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	700 l
Max. working pressure	350 bar
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)	120 kN
Rope diameter	22 mm
Drum diameter	560 mm
Rope speed	0-125 m/min
Rope capacity in the 1st layer	35.2/40.5 m
Rope capacity in the 3rd layer	130 m
Option	
Tagline winch	20 kN with free fall

Boom winch

Line pull	max. 72 kN
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	0-2.0 km/h
Grousers	3-web grousers, width 700 mm, transport width 3000 mm
Options	3-web grousers, width 800 mm, transport width 3360 mm 2-speed hydraulic motor for higher drive speed

Swing gear

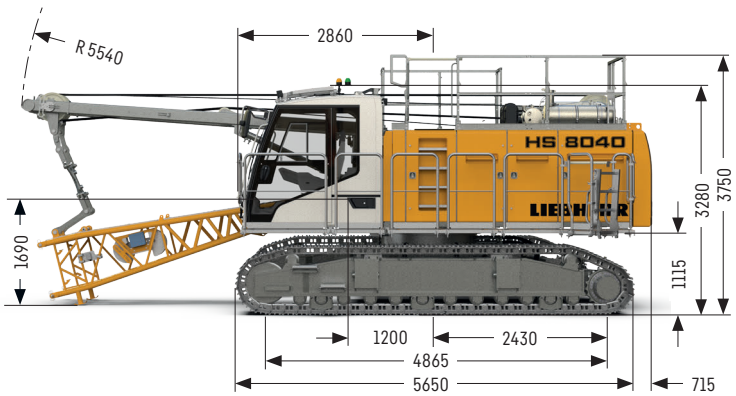
Drive system	swing drives, with fixed axial piston hydraulic motors, planetary gearbox, pinion
Swing ring	Roller bearing with internal teeth
Brake	hydraulically released, spring-loaded multi-disc holding brake
Swing speed	0-4.6 rpm continuously variable, selector for 3 speed ranges to increase swing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

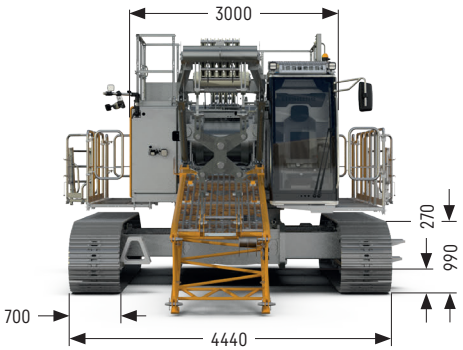
Control

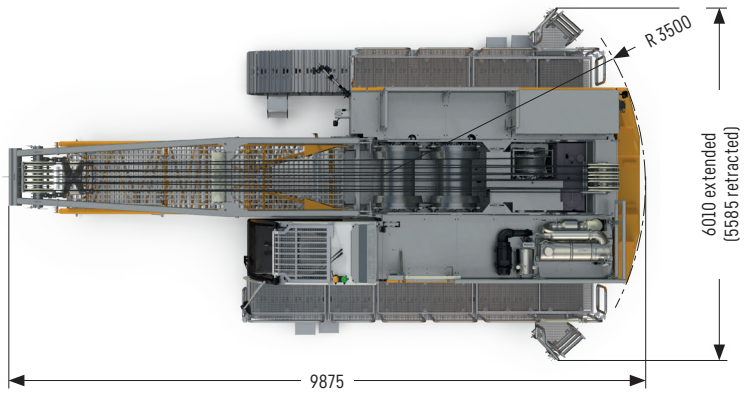
Control	includes all control and monitoring functions, designed to withstand extreme environmental conditions and heavy duty construction tasks
Display	high resolution monitor in the operator's cabin, clear display of complete machine operating data, warnings and failure indications in the required language
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 8.0 t at 3.5 m radius







Ground pressure

Ground pressure	0.630 kg/cm²

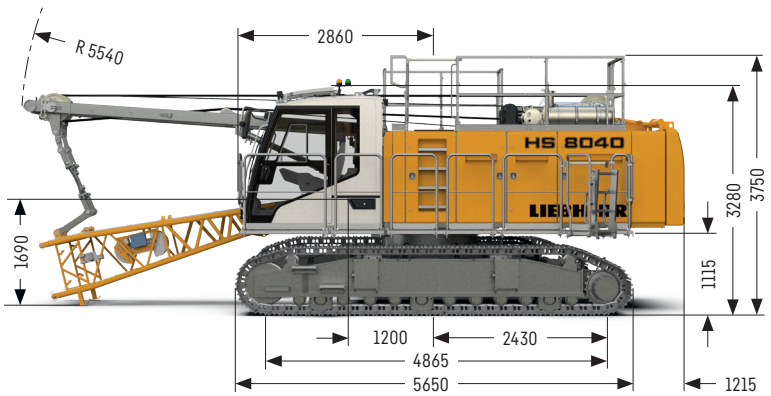
Operating weight

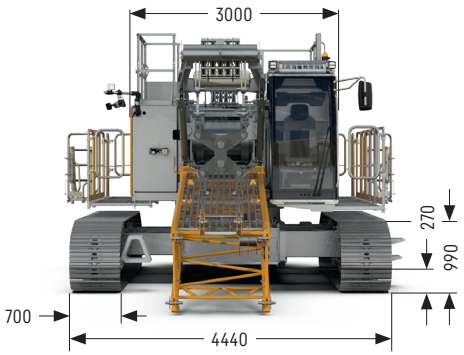
Composition of operating weight	Basic machine with undercarriage, 2 main winches 120 kN including wire ropes (70 m), 11 m main boom, consisting of A-frame, boom foot (4.8 m), boom head (6.2 m), 8 t basic counterweight, 700 mm 3-web grousers, 40 t hook block
Total weight	approx. 43 t

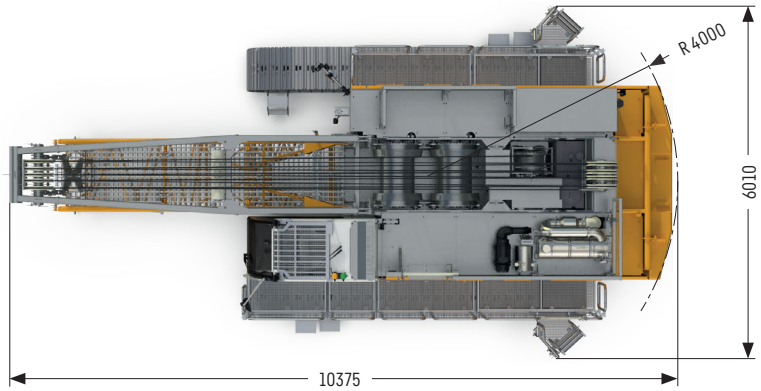
Equipment

Main boom (1108.20)	max. 41 m
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 8.3 t at 4.0 m radius







Ground pressure

Ground pressure	0.634 kg/cm²

Operating weight

Composition of operating weight	Basic machine with undercarriage, 2 main winches 120 kN including wire ropes (70 m), 11 m main boom, consisting of A-frame, boom foot (4.8 m), boom head (6.2 m), 8.3 t basic counterweight, 700 mm 3-web grousers, 40 t hook block
Total weight	approx. 43 t

Equipment

Main boom (1108.20)	max. 41 m
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)	kN	120
Rope diameter	mm	22
Minimum breaking load	kN	426
Line pull - 1-rope duty cycle operation	kN	120

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 12 metric tonnes. Stability calculated according to EN 16228-5. Machine standing on firm, horizontal ground.

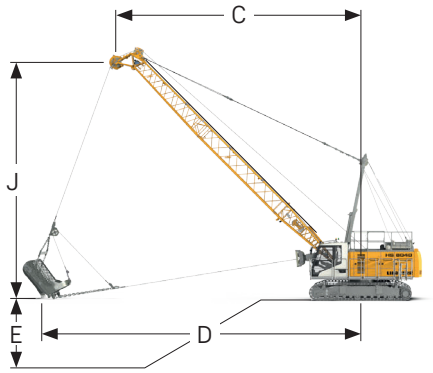
Load chart for slurry wall operation

Capacities in [t]

Radius [m]	Boom length [m] 11		14		17		20		23		26	
	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**
4	12.0	12.0	12.0	12.0	12.0	12.0						
5	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
6	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
7	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
8	10.0	10.6	10.1	10.6	10.1	10.7	10.0	10.6	10.0	10.6	10.0	10.6
9	8.4	8.9	8.5	9.0	8.5	9.0	8.4	8.9	8.4	8.9	8.4	8.9
10	7.2	7.6	7.2	7.7	7.3	7.7	7.2	7.7	7.2	7.6	7.1	7.6
11	6.2	6.6	6.3	6.7	6.3	6.7	6.3	6.7	6.2	6.6	6.2	6.6
12	5.4	5.8	5.5	5.9	5.5	5.9	5.5	5.9	5.5	5.8	5.4	5.8
13			4.9	5.2	4.9	5.2	4.9	5.2	4.9	5.2	4.8	5.1
14			4.4	4.7	4.4	4.7	4.4	4.7	4.3	4.6	4.3	4.6
15					4.0	4.2	3.9	4.2	3.9	4.2	3.8	4.1
16					3.6	3.8	3.5	3.8	3.5	3.8	3.5	3.7
17					3.2	3.5	3.2	3.4	3.2	3.4	3.1	3.4
18							2.9	3.1	2.9	3.1	2.8	3.0
19							2.7	2.9	2.6	2.8	2.6	2.8
20							2.4	2.6	2.4	2.6	2.3	2.5
21									2.2	2.4	2.1	2.3
22									2.0	2.2	2.0	2.1
23									1.8	2.0	1.8	1.9
24											1.6	1.8
25											1.5	1.6
26											1.3	1.5

* Rear counterweight [t] at 3.5 m radius
** Rear counterweight [t] at 4.0 m 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 [t]

	Boom length [m]											
	11				14				17			
	C [m]	J [m]	Rear counterweight 8.0*	Rear counterweight 8.3**	C [m]	J [m]	Rear counterweight 8.0*	Rear counterweight 8.3**	C [m]	J [m]	Rear counterweight 8.0*	Rear counterweight 8.3**
alpha [°] 55	8.1	10.3	**12.0**	**12.0**	9.8	12.7	**9.6**	**10.1**	11.5	15.2	**7.6**	**8.1**
50	8.8	9.6	**11.1**	**11.7**	10.8	11.9	**8.4**	**8.9**	12.7	14.2	**6.7**	**7.1**
45	9.5	8.9	**10.0**	**10.6**	11.6	11.1	**7.5**	**8.0**	13.7	13.2	**6.0**	**6.3**
40	10.1	8.2	**9.1**	**9.7**	12.4	10.1	**6.9**	**7.3**	14.7	12.1	**5.4**	**5.8**
35	10.6	7.4	**8.5**	**9.0**	13.1	9.1	**6.4**	**6.8**	15.5	10.8	**5.0**	**5.3**
30	11.1	6.6	**8.0**	**8.5**	13.7	8.1	**6.0**	**6.3**	16.3	9.6	**4.7**	**5.0**
25	11.5	5.7	**7.6**	**8.0**	14.2	6.9	**5.6**	**6.0**	16.9	8.2	**4.4**	**4.7**

* Rear counterweight [t] at 3.5 m radius
** Rear counterweight [t] at 4.0 m radius

Capacities in [t]

	Boom length [m]											
	20				23				26			
	C [m]	J [m]	Rear counterweight 8.0*	Rear counterweight 8.3**	C [m]	J [m]	Rear counterweight 8.0*	Rear counterweight 8.3**	C [m]	J [m]	Rear counterweight 8.0*	Rear counterweight 8.3**
alpha [°] 55	13.3	17.7	**6.2**	**6.6**	15.0	20.1	**5.2**	**5.6**	16.7	22.6	**4.4**	**4.7**
50	14.6	16.5	**5.4**	**5.8**	16.5	18.8	**4.5**	**4.8**	18.5	21.1	**3.8**	**4.0**
45	15.9	15.3	**4.8**	**5.1**	18.0	17.4	**4.0**	**4.3**	20.1	19.6	**3.3**	**3.5**
40	17.0	14.0	**4.4**	**4.7**	19.3	15.9	**3.6**	**3.8**	21.6	17.8	**2.9**	**3.2**
35	18.0	12.6	**4.0**	**4.3**	20.5	14.3	**3.3**	**3.5**	22.9	16.0	**2.6**	**2.9**
30	18.9	11.1	**3.7**	**4.0**	21.5	12.6	**3.0**	**3.2**	24.1	14.1	**2.4**	**2.6**
25	19.6	9.5	**3.5**	**3.7**	22.4	10.7	**2.8**	**3.0**	25.1	12.0	**2.2**	**2.4**

* Rear counterweight [t] at 3.5 m radius
** Rear counterweight [t] at 4.0 m radius

Casing oscillator and clamshell

Dredging assistant (option)

Further information on material handling

Casing oscillator

Max. drilling diameter	mm	1200

Capacities in [t]

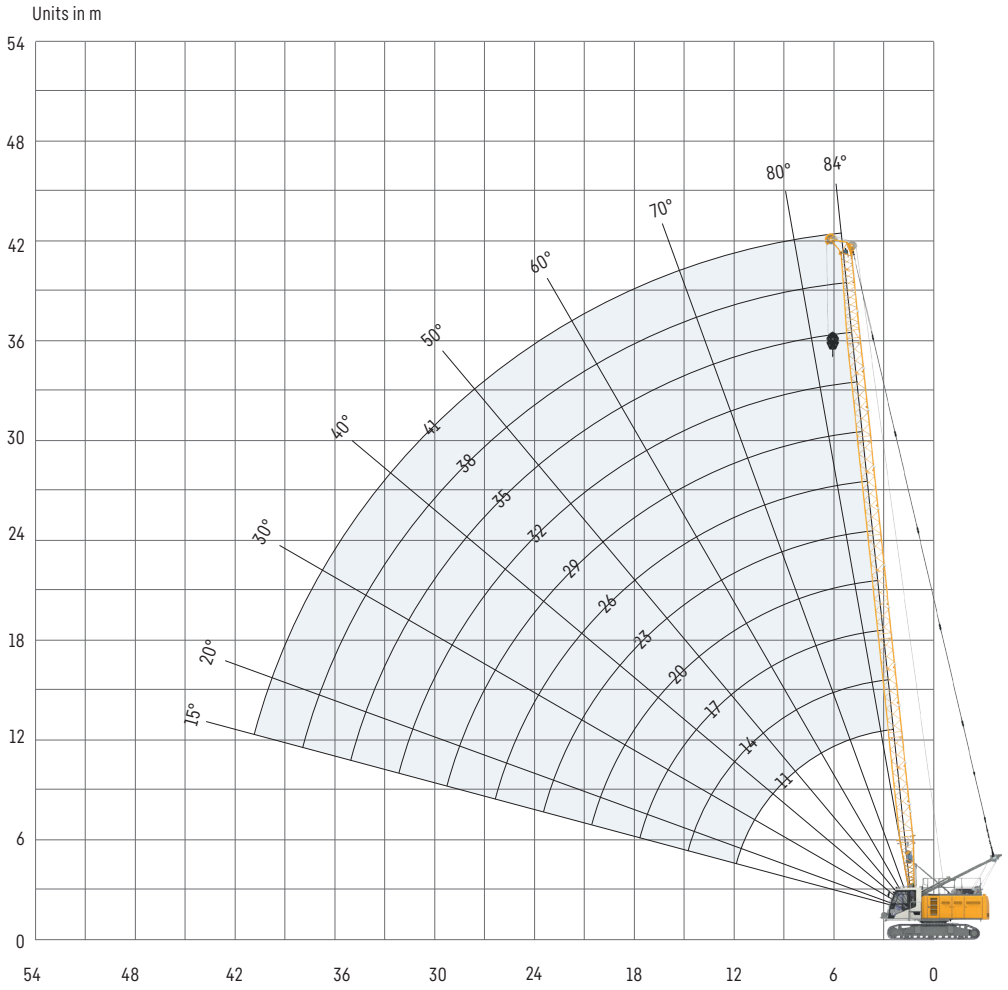
Radius [m]	Boom length [m]											
	11		14		17		20		23		26	
	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**
4	12.0	12.0	12.0	12.0	12.0	12.0						
5	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
6	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
7	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
8	11.2	11.9	11.3	11.9	11.3	11.9	11.3	11.9	11.2	11.9	11.2	11.9
9	9.5	10.0	9.5	10.1	9.5	10.1	9.5	10.1	9.5	10.0	9.5	10.0
10	8.2	8.6	8.2	8.7	8.2	8.7	8.2	8.7	8.2	8.6	8.1	8.6
11	7.1	7.5	7.2	7.6	7.2	7.6	7.2	7.6	7.1	7.6	7.1	7.5
12	6.2	6.6	6.3	6.7	6.4	6.7	6.3	6.7	6.3	6.7	6.3	6.6
13			5.7	6.0	5.7	6.0	5.7	6.0	5.6	6.0	5.6	5.9
14			5.1	5.4	5.1	5.4	5.1	5.4	5.1	5.4	5.0	5.3
15					4.6	4.9	4.6	4.9	4.6	4.9	4.5	4.8
16					4.2	4.5	4.2	4.5	4.2	4.4	4.1	4.4
17					3.8	4.1	3.8	4.1	3.8	4.1	3.8	4.0
18							3.5	3.8	3.5	3.7	3.5	3.7
19							3.2	3.5	3.2	3.4	3.2	3.4
20							3.0	3.2	3.0	3.2	2.9	3.1
21									2.7	2.9	2.7	2.9
22									2.5	2.7	2.5	2.7
23									2.3	2.5	2.3	2.5
24											2.1	2.3
25											2.0	2.2
26											1.8	2.0

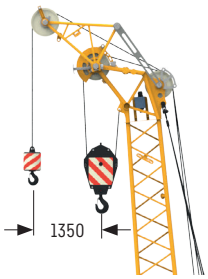
***** Rear counterweight [t] at 3.5 m radius

****** Rear counterweight [t] at 4.0 m radius

TLT 11935750 M305701 V1. 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 12 t
The maximum capacity of the auxiliary jib is 12 t . The corresponding load chart is programmed in the LML system.

Main boom configuration

	Amount of boom sections										
Boom foot 4.8 m	1	1	1	1	1	1	1	1	1	1	1
Boom section 3 m		1		1		1		1		1	
Boom section 6 m			1	1	2	2	3	3	4	4	5
Boom head 6.2 m	1	1	1	1	1	1	1	1	1	1	1
Boom length [m]	**11**	**14**	**17**	**20**	**23**	**26**	**29**	**32**	**35**	**38**	**41**
Auxiliary jib	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Capacities in [t]

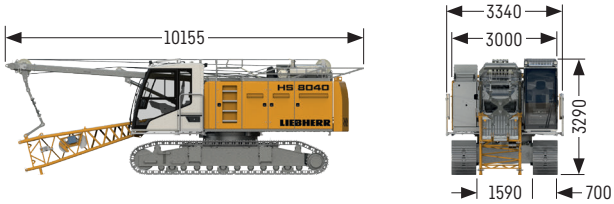
Radius [m]	Boom length [m]																					
	11		14		17		20		23		26		29		32		35		38		41	
	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**	8.0*	8.3**
3.1	40.0	40.0																				
4	36.1	38.0	33.6	35.4	31.4	33.1	29.3	30.9														
5	26.6	28.1	25.2	26.6	23.9	25.2	22.7	23.9	21.6	22.8	20.5	21.7	19.7	20.9								
6	20.9	22.1	20.1	21.2	19.2	20.3	18.3	19.4	17.6	18.6	16.8	17.8	16.1	17.1	15.5	16.4	14.8	15.7	14.3	15.1		
7	16.5	17.5	16.6	17.5	16.0	16.9	15.3	16.2	14.7	15.6	14.2	15.0	13.6	14.5	13.1	13.9	12.6	13.4	12.2	12.9	11.7	12.4
8	13.6	14.3	13.6	14.4	13.6	14.4	13.1	13.9	12.7	13.4	12.2	12.9	11.8	12.5	11.4	12.0	10.9	11.6	10.6	11.2	10.2	10.8
9	11.4	12.1	11.5	12.2	11.5	12.2	11.4	12.1	11.0	11.7	10.7	11.3	10.3	10.9	9.9	10.6	9.6	10.2	9.3	9.9	8.9	9.5
10	9.8	10.4	9.9	10.5	9.9	10.5	9.9	10.5	9.8	10.4	9.4	10.0	9.1	9.7	8.8	9.4	8.5	9.1	8.2	8.8	7.9	8.5
11	8.6	9.1	8.7	9.2	8.7	9.2	8.6	9.2	8.6	9.1	8.4	9.0	8.1	8.7	7.9	8.4	7.6	8.1	7.3	7.8	7.0	7.5
12	7.5	8.0	7.6	8.1	7.7	8.1	7.6	8.1	7.6	8.1	7.6	8.0	7.3	7.8	7.1	7.5	6.8	7.3	6.5	7.0	6.2	6.7
13			6.8	7.2	6.8	7.3	6.8	7.2	6.8	7.2	6.7	7.1	6.6	7.0	6.4	6.8	6.1	6.5	5.8	6.3	5.6	6.0
14			6.1	6.5	6.2	6.5	6.1	6.5	6.1	6.5	6.0	6.4	6.0	6.4	5.8	6.2	5.5	5.9	5.3	5.7	5.0	5.4
15					5.6	5.9	5.5	5.9	5.5	5.9	5.5	5.8	5.4	5.8	5.2	5.6	5.0	5.4	4.8	5.2	4.6	4.9
16					5.1	5.4	5.0	5.4	5.0	5.3	5.0	5.3	4.9	5.2	4.8	5.1	4.6	4.9	4.4	4.7	4.1	4.5
17					4.6	4.9	4.6	4.9	4.6	4.9	4.5	4.8	4.5	4.8	4.4	4.7	4.2	4.5	4.0	4.3	3.8	4.1
18							4.2	4.5	4.2	4.5	4.1	4.4	4.1	4.4	4.0	4.3	3.9	4.2	3.7	4.0	3.5	3.8
19							3.9	4.1	3.8	4.1	3.8	4.1	3.7	4.0	3.7	3.9	3.6	3.9	3.4	3.7	3.2	3.5
20							3.5	3.8	3.5	3.8	3.5	3.7	3.4	3.7	3.4	3.6	3.3	3.6	3.1	3.4	2.9	3.2
21									3.3	3.5	3.2	3.5	3.2	3.4	3.1	3.3	3.0	3.3	2.9	3.1	2.7	2.9
22									3.0	3.2	3.0	3.2	2.9	3.2	2.9	3.1	2.8	3.0	2.7	2.9	2.5	2.7
23									2.8	3.0	2.7	3.0	2.7	2.9	2.6	2.9	2.6	2.8	2.5	2.7	2.3	2.5
24											2.5	2.8	2.5	2.7	2.4	2.6	2.4	2.6	2.3	2.5	2.1	2.3
25											2.3	2.6	2.3	2.5	2.2	2.4	2.2	2.4	2.1	2.3	2.0	2.2
26											2.2	2.4	2.1	2.3	2.1	2.3	2.0	2.2	1.9	2.1	1.8	2.0
27													2.0	2.2	1.9	2.1	1.8	2.0	1.8	2.0	1.7	1.9
28													1.8	2.0	1.8	1.9	1.7	1.9	1.6	1.8	1.6	1.7
29													1.7	1.9	1.6	1.8	1.6	1.7	1.5	1.7	1.4	1.6
30															1.5	1.7	1.4	1.6	1.4	1.5	1.3	1.5
31															1.4	1.5	1.3	1.5	1.3	1.4	1.2	1.3
32															1.3	1.4	1.2	1.4	1.1	1.3	1.1	1.2
33																	1.1	1.3	1.0	1.2		1.1
34																	1.0	1.2		1.1		1.0
35																		1.0				

* Rear counterweight [t] at 3.5 m radius
** Rear counterweight [t] at 4.0 m radius

TLT 11935750 M305701. 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

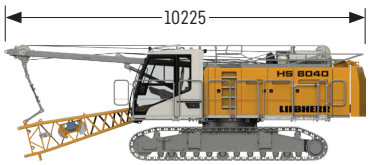
Basic machine and main boom (1108.20)



Basic machine (compact version)

with undercarriage, boom foot (1108.20), A-frame, 2x 120 kN winches including wire ropes (70 m), with basic counterweight and crawlers

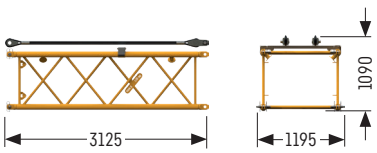
Width	mm	3000
Weight with 700 mm 3-web grousers	kg	40700
Weight with 800 mm 3-web grousers (option)	kg	40970
Weight of hoist ropes (2x 70 m)	kg/m	2.34



Basic machine (long version)

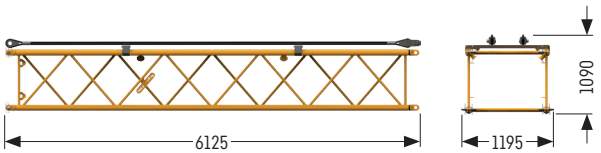
with undercarriage, platforms and boom foot (1108.20), A-frame, 2x 120 kN winches including wire ropes (70 m), with basic counterweight and crawlers

Width	mm	3340
Weight with 700 mm 3-web grousers	kg	41040
Weight with 800 mm 3-web grousers (option)	kg	41310
Weight of hoist ropes (2x 70 m)	kg/m	2.34



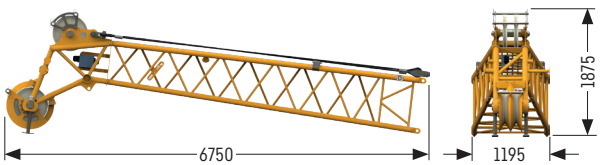
Boom section 3 m (1108.20)

Weight incl. pendant ropes	kg	261



Boom section 6 m (1108.20)

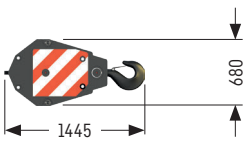
Weight incl. pendant ropes	kg	447



Boom head (1108.20)

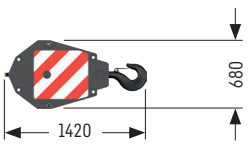
Weight incl. pendant ropes	kg	1073

Hooks



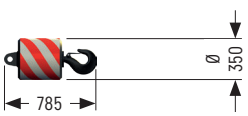
40 t hook block – 2 sheaves

Width	mm	265
Weight	kg	500



24 t hook block – 2 sheaves

Width	mm	220
Weight	kg	420



8 t hook block – 1 sheave

Weight	kg	300

Liebherr-Werk Nenzing GmbH · Dr. Hans Liebherr Str. 1 · 6710 Nenzing, Austria
Phone +43 50809 41-473 · crawler.crane@liebherr.com · www.liebherr.com
facebook.com/LiebherrConstruction

Printed in Austria HS 8040.1 8002.02 - rC - EN v01.092022 – 13134005
Subject to modifications.