

Mining Dragline

HS 8300 HD
Litronic®

EN

HS 8008.01



LIEBHERR



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Characteristics



Productivity

The hydrostatic winch drive adapts the rope speed to the soil conditions and so provides for optimum filling of the dragline bucket. In combination with the continuous proportional control fast working cycles are achieved.



Efficiency

Pactronic® and the state-of-the-art hydraulic system lower fuel consumption and operating costs without reducing the machine's performance.



Reliability

A high number of components and innovative solutions from Liebherr reduce wear and downtime to a minimum. Moreover, the robust steel construction provides for a long service life of the machine.





Customer Service

Using data transmission programs and cost-saving solutions we can quickly react to our customers' requirements and recommend further possibilities for optimization.



Safety

Sophisticated safety systems protect operators and machine during tough operation as well as technicians during assembly and service work, so preventing injuries and/or damage.



Environment

The engines are also built by Liebherr. These ensure reduced emissions and fuel consumption without any loss of power.

Technical Description



Engine

Power rating according to ISO 9249, 750 kW (1005 hp) at 1700 rpm
Engine type ————— Liebherr D 9512 A7-00 or
Liebherr D 9512 A7-04
Fuel tank ————— 1170 l capacity with continuous level
indicator and reserve warning
AdBlue tank ————— 230 l capacity with continuous level
indicator and reserve warning
Engine, type Liebherr D 9512 A7-04, complies with NRMM exhaust
certification EPA/CARB Tier 4f.

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.



Hydraulic System

The main pumps are operated by a distributor gearbox. Axial piston displacement pumps work in closed and open circuits supplying oil only when needed (flow control on demand). To minimize peak pressure, automatic pressure cut-off is integrated. This spares pumps and saves energy. The hydraulic oil is cleaned through electronically controlled pressure and return filters. Possible contamination is signaled in the cabin.

Ready made hydraulic retrofit kits are available to customize requirements e.g. powering casing oscillators, VM vibrators, hydraulic grabs, fixed leaders etc.

Working pressure ————— max. 400 bar

Oil tank capacity ————— 2800 l



Boom Winch

Line pull ————— max. **150 kN** / max. 33,725 lbf

Rope diameter ————— 24 mm

Boom up ————— 130 sec. from 15° to 84°



Crawlers

The track width of the undercarriage is changed hydraulically. Propulsion through axial piston motor, hydraulically released spring loaded multi-disc brake, maintenance-free crawler tracks, hydraulic chain tensioning device.

Track pads ————— **1200 mm** / 47.2"

Track pads (option) ————— **1500 mm** / 59.0"

Drive speed ————— **0 – 1.4 km/h** / 0 – 0.87 mph



Main Winches

Winch options:

Line pull (nom. load) ————— **500 kN** / 112,405 lbf

Rope diameter ————— **46 mm**

Drum diameter ————— **1100 mm** / 43.3 inch

Rope speed ————— **0-125 m/min** / 0-410 ft/min

Rope capacity 1st layer ————— **69.1 m** / 226.7 ft

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.



Swing

Consists of rollerbearing with external teeth for lower tooth flank pressure, fixed axial piston hydraulic motor, spring loaded and hydraulically released multi-disc holding brake, planetary gearbox and pinion.

Swing speed from 0–3.6 rpm continuously variable, selector for 3 speed ranges to increase swing precision.

Standard:

4 swing drives



Control

The core of the Liebherr machines is the Litronic control system.

Developed and manufactured by Liebherr, this comprehensive system encompasses all control and monitoring functions and is designed to withstand extreme temperature changes and the rough heavy duty tasks common in the mining industry. Complete machine operating data, warnings and failure indications are clearly displayed in the required language on the high resolution monitor in the operator's cab. Documentation of operating data (PDE) enables optimum diagnosis as well as early detection and prevention of more serious defects.

An electro-hydraulic proportional control allows several movements to be performed simultaneously. This ensures that all categories of loads can be positioned with utmost precision.

Options:

- PDE: Process data recording
- GSM/GPRS telematics module



Noise Emission

Noise emissions correspond with 2000/14/EC directive.

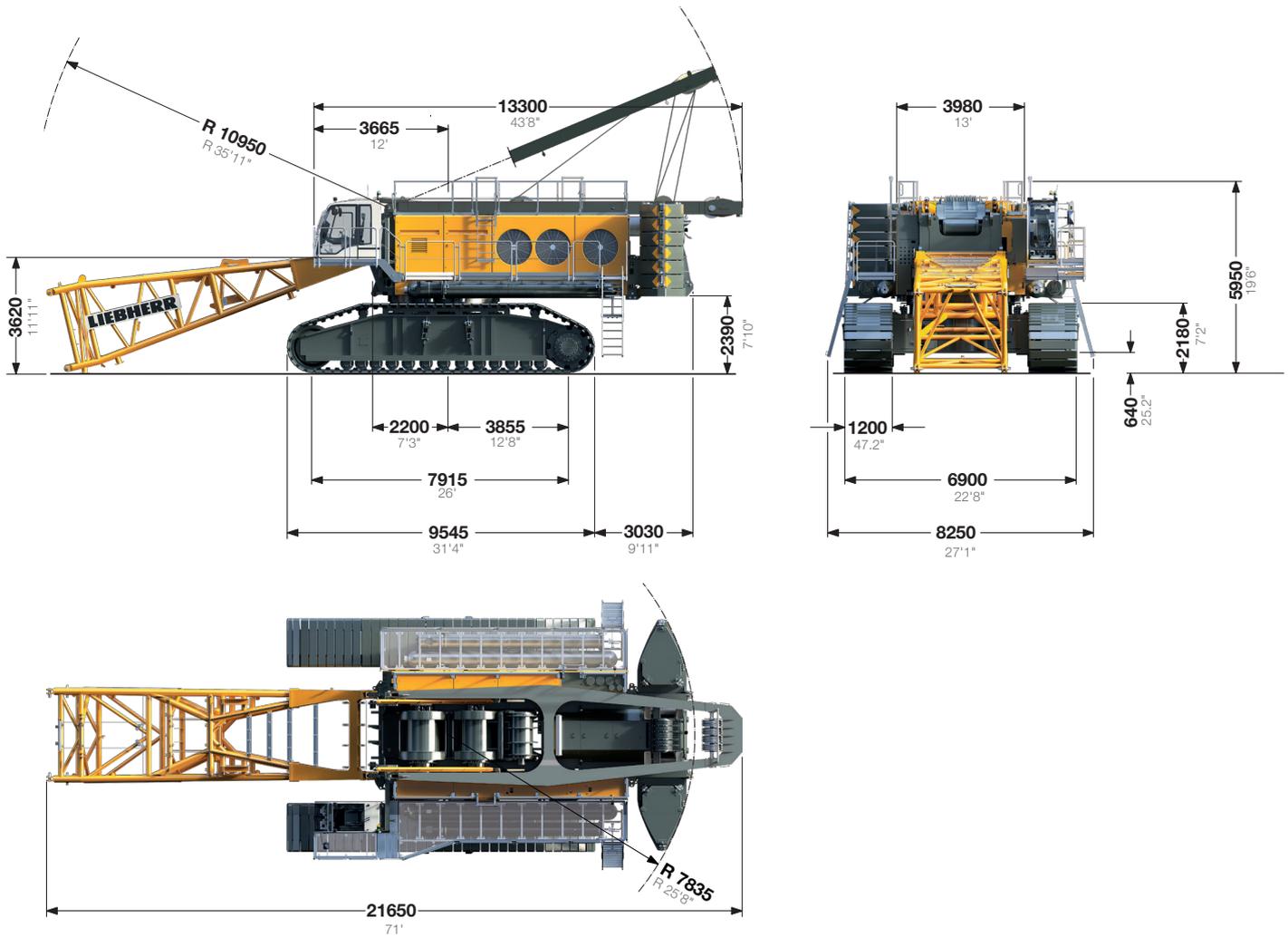
Guaranteed sound pressure level L_{PA} in the cabin ————— 72.3 dB(A)

Guaranteed sound power level L_{WA} ————— 115 dB(A)

Vibration transmitted to the hand-arm system of the machine operator ————— < 2.5 m/s²

Vibration transmitted to the whole body of the machine operator ————— < 0.5 m/s²

Dimensions



Machine Characteristics

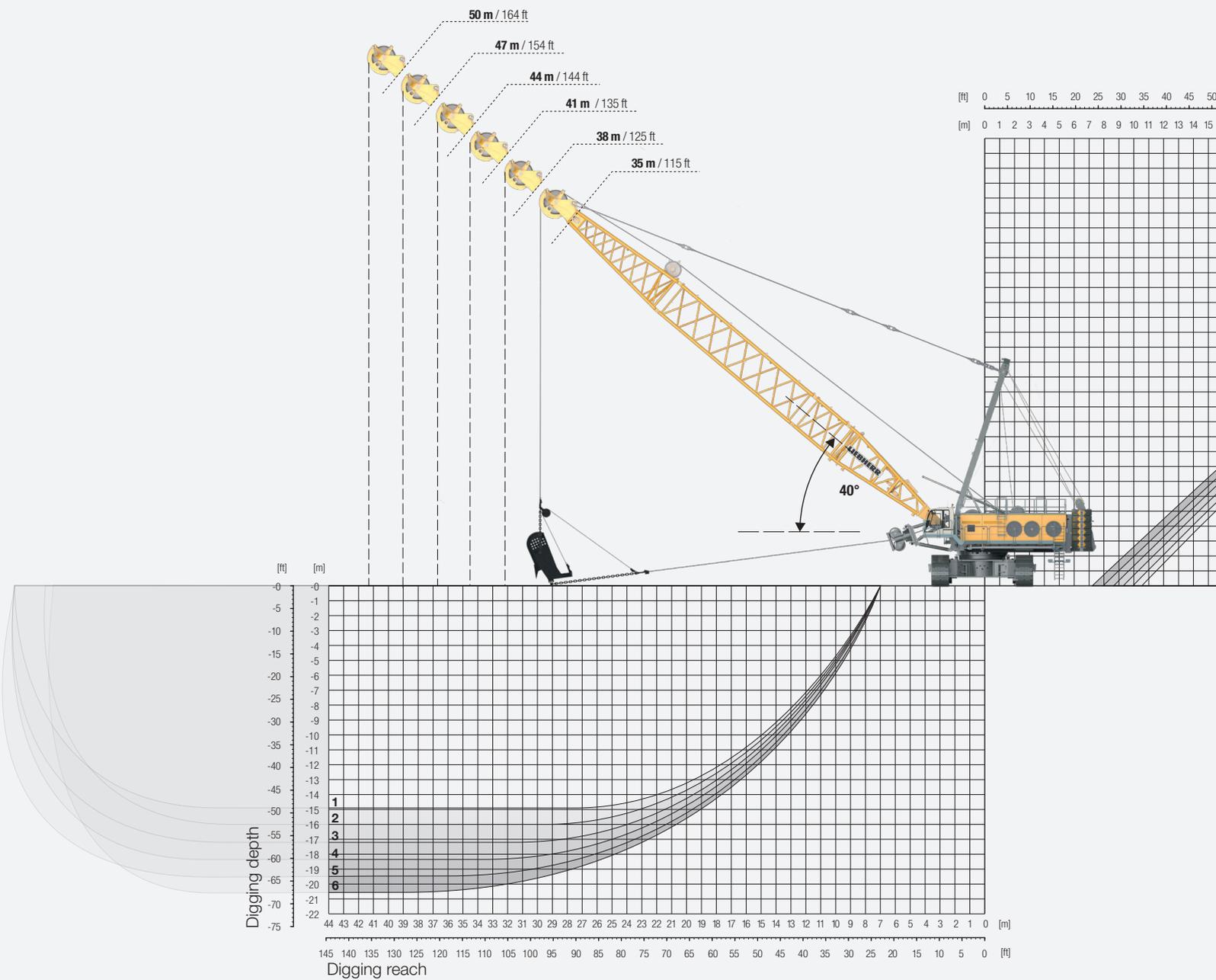
Operating weight	approx. 364 t *	802,483 lbs
Drive technology	Liebherr V12 (induction motor available)	
System power with Pactronic®	1250 kW	1676.3 hp
Boom	up to 50 m	3,281 ft
Bucket	up to 11.5 m³	15 yd³
Design	according to EN 474-1 and EN 474-12	

* The operating weight includes the basic machine with Pactronic®, HD undercarriage and crawlers with 1200 mm tracks, a 41 m boom, a 11 yd³ dragline bucket and 78,7 t of counterweight.

Ground Pressure

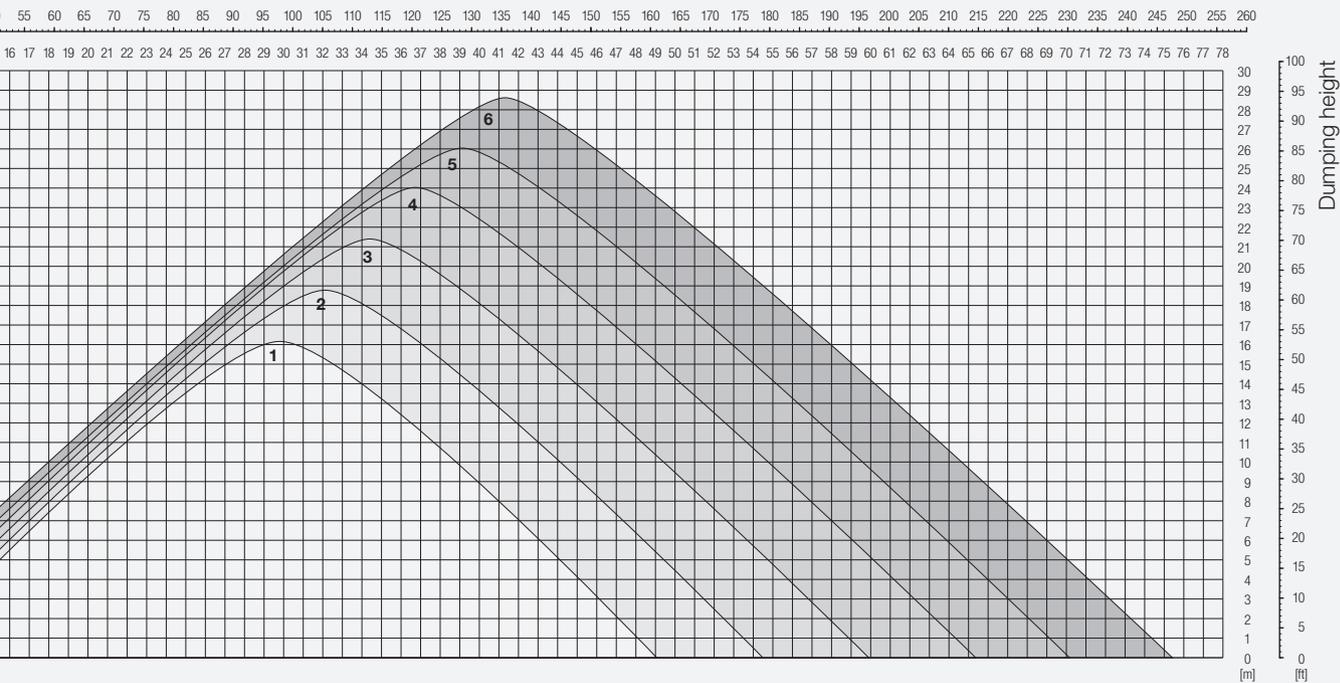
Track	1200 mm / 47.2"	1500 mm / 59"
Pressure	1.95 kg/cm² / 191.1 kPa	1.56 kg/cm² / 153.0 kPa

Digging Range



- GP:** General Purpose Dragline Bucket
- HD:** Heavy Duty Dragline Bucket
- XHD:** Extra Heavy Duty Dragline Bucket

Dumping reach



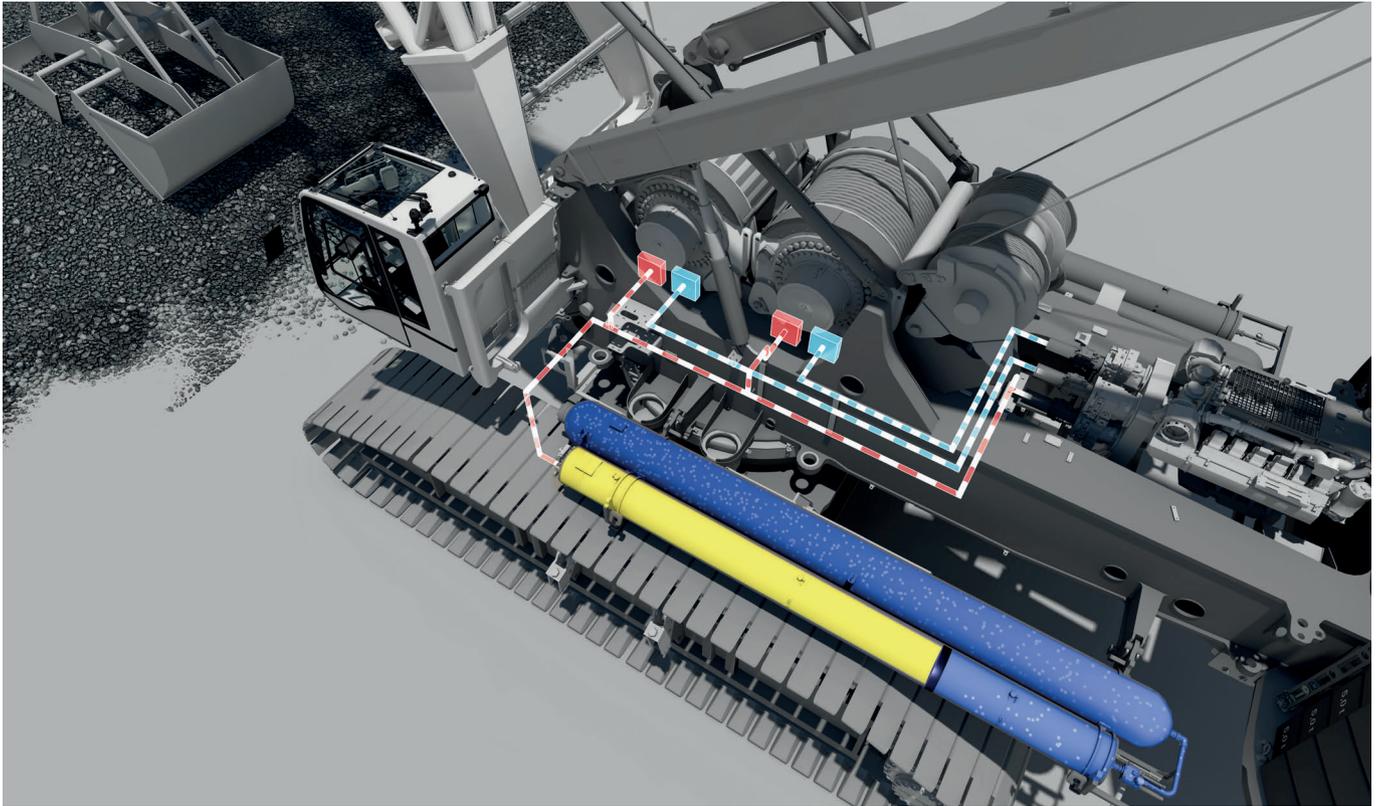
Digging Range at 40° boom angle – At an assumed density of 1.6 t/m³ and a fill factor of 100 %

Digging range / dumping range		1	2	3	4	5	6
Boom length	[m / ft]	35 / 115	38 / 125	41 / 135	44 / 144	47 / 154	50 / 164
GP	[m ³ / yd ³]	11.5 / 15.0	9.9 / 13.0	8.4 / 11.0	7.6 / 10.0	6.5 / 8.5	4.6 / 6.0
HD	[m ³ / yd ³]	11.1 / 14.5	9.5 / 12.5	8.0 / 10.5	7.3 / 9.5	6.1 / 8.0	4.2 / 5.5
XHD	[m ³ / yd ³]	10.7 / 14.0	9.2 / 12.0	7.6 / 10.0	6.9 / 9.0	5.7 / 7.5	3.8 / 5.0
Digging and dumping reach *	[m / ft]	29.8 / 97.8	32.1 / 102.0	34.4 / 112.9	36.7 / 120.4	39.0 / 128.0	41.3 / 135.5
Digging depth	[m / ft]	14.9 / 48.9	16.0 / 52.5	17.2 / 56.4	18.4 / 60.4	19.5 / 64.0	20.6 / 67.6
Dumping height	[m / ft]	16.1 / 52.8	18.8 / 61.7	21.4 / 70.2	24.0 / 78.7	26.7 / 87.6	28.6 / 93.8

Digging Range at 45° boom angle – At an assumed density of 1.6 t/m³ and a fill factor of 100 %

Digging range / dumping range		1	2	3	4	5	6
Boom length	[m / ft]	35 / 115	38 / 125	41 / 135	44 / 144	47 / 154	50 / 164
GP	[m ³ / yd ³]	13.0 / 17.0	11.5 / 15.0	10 / 13.0	9.2 / 12.0	7.3 / 9.5	6.1 / 8.0
HD	[m ³ / yd ³]	12.6 / 16.5	11.1 / 14.5	9.6 / 12.5	8.8 / 11.5	6.9 / 9.0	5.7 / 7.5
XHD	[m ³ / yd ³]	12.2 / 16.0	10.7 / 14.0	9.2 / 12.0	8.4 / 11.0	6.5 / 8.5	5.4 / 7.0
Digging and dumping reach *	[m / ft]	27.7 / 90.9	29.9 / 98.1	32.0 / 105.0	34.1 / 111.9	36.2 / 118.8	38.3 / 125.7
Digging depth	[m / ft]	13.9 / 45.6	14.9 / 48.9	16.0 / 52.5	17.1 / 56.1	18.1 / 59.4	19.2 / 63.0
Dumping height [m]	[m / ft]	18.4 / 60.4	20.8 / 68.2	23.2 / 76.1	25.7 / 84.3	28.3 / 92.9	31.5 / 103.4

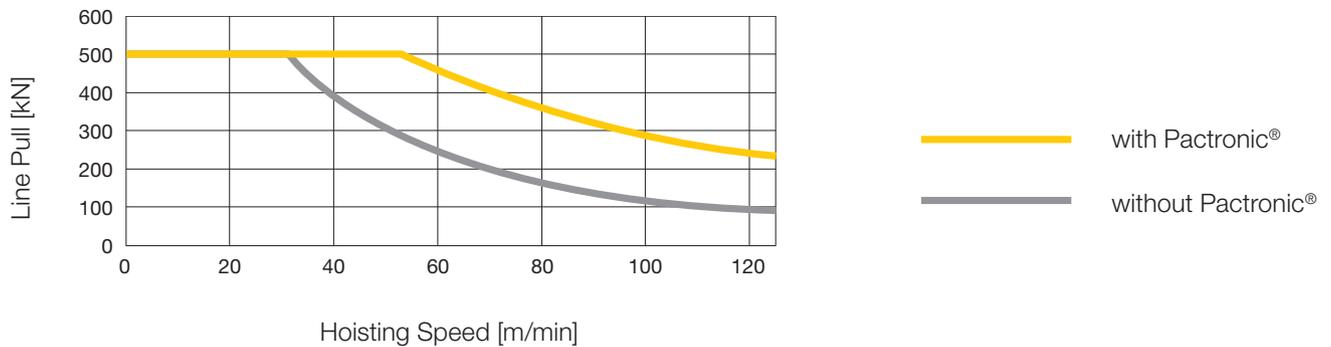
* the reach is calculated from rotation center of the machine



Powerful and Energy-Saving Hybrid Drive

The HS 8300 HD is fitted with Liebherr's Pactronic® hybrid drive, which offers both economical and ecological advantages. Surplus energy is stored and subsequently regenerated so increasing the material handling capacity while at the same time significantly reducing fuel consumption. Moreover, the proven technology of the hydraulic accumulator ensures maximum reliability and requires low maintenance. The reduced energy consumption considerably reduces emissions therefore causing much less environmental pollution.

Winch diagram



Liebherr Customer Service

Based on many years of experience Liebherr provides effective assistance and support to its customers and will continue to do so in the future.



Preventive Maintenance

Regular equipment inspections and preventive maintenance increase the overall availability of your machine and significantly reduce the probability of large repairs.



Upgrades and Retrofit

- reduce environmental impact
- increase safety
- improve operator's comfort
- comply with new legislation



Reman Program

Liebherr offers three-stage reconditioning of components:

- exchange components
- general overhaul
- repair



Fleet Management

Based on state-of-the-art data transmission technology, the on-board monitoring system provides information on the operation of equipment, enables efficient management, optimal operation, maintenance scheduling and remote supervision.



Predictive Maintenance

The integrated electronic system allows for the recording and reporting of data regarding both individual components as well as the machine as a whole. Detailed analysis supports predictive maintenance strategies to minimize unscheduled downtime.



Service Agreements

In close consultation between Liebherr and customer, individually tailored agreements can be arranged to ensure optimum condition of the machine and high availability.

The Liebherr Group of Companies



Wide Product Range

The Liebherr Group is one of the largest construction equipment manufacturers in the world. Liebherr's high-value products and services enjoy a high reputation in many other fields. The wide range includes domestic appliances, aerospace and transportation systems, machine tools and maritime cranes.

Exceptional Customer Benefit

Every product line provides a complete range of models in many different versions. With both their technical excellence and acknowledged quality, Liebherr products offer a maximum of customer benefits in practical application.

State-of-the-art Technology

To provide consistent, top quality products, Liebherr attaches great importance to each product area, its components and core technologies. Important modules and components are developed and manufactured in-house, for instance the entire drive and control technology for construction equipment.

Worldwide and Independent

Hans Liebherr founded the Liebherr family company in 1949. Since that time, the enterprise has steadily grown to a group of more than 130 companies with over 41,000 employees located on all continents. The corporate headquarters of the Group is Liebherr-International AG in Bulle, Switzerland. The Liebherr family is the sole owner of the company.

www.liebherr.com

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