

# **Liebherr special equipment for the mineral extraction industry**



# **LIEBHERR**



# Liebherr special equipment for the

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## Large hydraulic excavators

Liebherr large excavators are designed and built from the ground up for heavy-duty operations in quarrying, featuring robust construction, power and performance for high

production and economical operations.

With the machines R 954 C, R 964 C, R 974 C, R 9100 and R 984 C, Liebherr offers the world's widest spectrum of excavators and attachments within the range from 50 to 130 tonnes operating weight. All these models are available in both backhoe and front shovel configuration and, additionally, there are three special SME-versions. This comprehensive range is ideal for the varied and demanding requirements of modern quarrying operations, combining state-of-the-art technology with lasting quality.



2

## Wheel loaders

Liebherr wheel loaders employ innovative design and technology to produce power, performance and operating economy throughout the range. The Liebherr

drive system combines with the uniquely located diesel engine to ensure high tipping loads and increased productivity. Pulling power and speed are matched automatically to the respective requirements in quarrying operations. The drive concept reduces tyre wear by up to 25 % and almost completely prevents wear of the brakes. The lower operating weight and, at the same time, higher degree of efficiency make fuel savings of up to 25 % possible. Liebherr wheel loaders guarantee powerful performance, a high level of economy and reduce the burden on the environment in the process.





# mineral extraction industry

# 3

## Crawler tractors

Gains in productivity are usually achieved by the use of new technologies. With the crawler tractor models PR 754 (40t) and PR 764 (50t), Liebherr offers the customer

hydrostatically driven large crawlers that boast outstanding ripping strength and pushing power.

The innovative drive system achieves an extremely high level of efficiency. Thanks to simple joystick operation and infinitely variable travelling speed selection, the engine performance is always set at an ideal proportion of pulling power and working speed. This leads to perfect traction in the most varied of ground surface conditions.

# 4

## Articulated trucks

Efficiency and safety play an extremely important role in quarrying operations. The articulated trucks from Liebherr meet these demands in every case. The powerful

drive concept and the large payload capacity assure fast turnaround times, even in challenging terrain. The high-performance retarder assures safe handling of the articulated truck at all times. Even on extreme downhill gradients, the driver is able to apply the brakes with infinitely variable and fine control for safe and precise manoeuvres. The key components come from the company's own production and assure consistently high quality and longevity.

The powerful articulated trucks are convincing as an economical transportation solution and are a clever supplement to the loading plant equipment produced by Liebherr.





# 1 Large hydraulic excavators

With the machines R 954 C, R 964 C, R 974 C, R 9100 and R 984 C, Liebherr offers the world's widest spectrum of excavators and attachments within the range from 50 to 130 tonnes operating weight. All these models are available in both backhoe and front shovel configuration and, additionally, there are three special SME-versions. This comprehensive range is ideal for the varied and demanding requirements of modern quarrying operations, combining state-of-the-art technology with lasting quality.

## **Reliability**

Implementation in the raw materials industry places heavy demands on large hydraulic excavators. Liebherr excavators are perfectly prepared for these challenges. To achieve the maximum individual benefit, Liebherr orientates itself around the onsite conditions right from the design stage: Based on the kind of material to be extracted and its quantity, the individual components of the equipment can be assembled to form the ideal combination.

Thanks to the hard-wearing quality of the components, exemplary availability is assured even with continuous operation. Liebherr large hydraulic excavators guarantee marathon quality for relentless power.



## Economy

Quality proven in detail: by pioneering solutions for the highest level of reliability and availability. Liebherr large hydraulic excavators are distinguished by state-of-the-art technology and high quality finishing - perfectly tailored to assure maximum productivity. With 50 years of experience in the construction of hydraulic excavators, Liebherr offers a unique advantage in terms of expertise in design and consultation. The main components of the drive train are Liebherr's own production. Diesel engines and hydraulic components, such as pumps, oil motors, cylinders, swing ring and also swivel and travel gear are optimally adapted to each other and thereby assure an effective and demand-orientated output, a high degree of efficiency and a long service life.

## Performance

In quarrying, a permanently high loading volume provides the decisive advantages for operating economy. Liebherr large hydraulic excavators impress here through targeted performance orientation: High digging forces, an outstanding bucket fill factor and short cycle times guarantee maximum production in a short space of time and optimal capacity utilization of the trucks used to transport the material. The SME versions are particularly impressive thanks to even higher productivity as a result of larger bucket volumes. The larger bucket volume is achieved by implementing the undercarriage of the next nthe next bigger machine and also by larger bucket and stick cylinders. This leads to even quicker working cycles thanks to higher digging and breakout forces. The Liebherr backhoe bucket is designed for operations with extremely high demands and it enables outstanding implementation of the digging forces. With the front shovel version, good penetration into the material and a high fill factor are facilitated by an ideal bucket shape. The tried and trusted parallelogram kinematics developed by Liebherr provide optimal bucket control. Crowding is thereby particularly precise and balanced. With the Liebherr quick-coupling systems, the backhoe buckets, clamshells, rippers or other attachments can be changed in the shortest time. Liebherr provides the right version for high loading efficiency and maximum utilisation during quarrying.

## Comfort

Liebherr large hydraulic excavators provide the driver with ideal conditions for fatigue-free and effective working. All of the excavators, from the R 964 C upwards feature large and spacious cabs. The cabs are conveniently equipped and comply with the latest ergonomic conventions. This maintains the driver's concentration and well-being over many hours. The generously sized cab windows with 3-layer laminated glass enable safe working and an optimal view over the working space and surrounding area. For convenience during maintenance measures as well, Liebherr large hydraulic excavators feature safe and comfortable catwalks as well as a clever layout of the components and service points on the uppercarriage.





# Overview of large hydraulic exc

Attachments items  
made from high  
tensile cast steel for  
long service life

Regeneration Plus  
for high fuel efficiency

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Hoist cylinder  
protection (optional)

Wide bearing base with two  
short pins for high stability  
and longevity

Stick cylinder  
protection  
(optional)

Hydraulic quick coupler for easily  
changing over attachment tools,  
e.g. to ripper (not shown)

Various wear-packages for  
backhoe bucket, adapted to all  
operating requirements, special  
bucket for drop-ball application



# avators with backhoe bucket





# Overview of large hydraulic exc



Equipment items made from high tensile cast steel for long service life

Crowd cylinder and hoist cylinder guard (optional)

Wide bearing base with two short pins for high stability and longevity

Various wear stages for bottom dump bucket available, adapted to all operating requirements

With the shovel attachment version, good penetration into the material and a high fill capacity are facilitated by an ideal bucket shape.

Cover for swivel gear lubricating lines (optional)

Bevelled track pads



# avators with shovel attachment

The tried and trusted parallelogram kinematics enable optimal bucket control. Crowding is thereby particularly powerful and balanced.

Protective guard  
FOPS / FGPS  
(optional)

Rigid cab elevation  
for good visibility  
over working area

Liebherr engine and  
Liebherr components in  
drive train for powerful  
performance

Service platform  
on upper carriage  
(from R 964 C upwards)

Various types  
of catwalks  
available  
(from R 964 C  
upwards)

Protection plate  
for undercarriage  
for more safety  
during drop-ball  
application

Idler in cast design

Sprocket with double  
gearing for long service life



# Overview of technical data

Liebherr offers a comprehensive and well incremented range of tracked excavators for quarrying operations. In addition to the five R 954 C to R 984 C models, which cover the whole 50 to 130 t spectrum, the SME versions R 954 C SME, R 964 C SME and R 974 C SME are offered. The SME versions are equipped as standard in each



## R 954 C Litronic

Engine output	240 kW / 326 HP
Operating weight backhoe	approx. 58 t
Backhoe bucket capacity	up to 3.00 m <sup>3</sup>
Digging force	248 kN / 25.8 t
Breakout force	313 kN / 31.9 t
Operating weight shovel	approx. 54 t
Shovel capacity	up to 3.10 m <sup>3</sup>
Crowd force	435 kN / 44.3 t

## R 954 C SME Litronic

Engine output	240 kW / 326 HP
Operating weight backhoe	approx. 60 t
Backhoe bucket capacity	up to 3.50 m <sup>3</sup>
Digging force	287 kN / 29.3 t
Breakout force	346 kN / 35.3 t
Operating weight shovel	approx. 62 t
Shovel capacity	up to 3.50 m <sup>3</sup>
Crowd force	435 kN / 44.3 t



## R 974 C Litronic

Engine output	400 kW / 544 HP
Operating weight backhoe	approx. 91 t
Backhoe bucket capacity	up to 5.80 m <sup>3</sup>
Digging force	357 kN / 36.4 t
Breakout force	444 kN / 45.4 t
Operating weight shovel	approx. 92 t
Shovel capacity	up to 5.60 m <sup>3</sup>
Crowd force	630 kN / 64.2 t

## R 974 C SME Litronic

Engine output	400 kW / 544 HP
Operating weight backhoe	approx. 101 t
Backhoe bucket capacity	up to 6.20 m <sup>3</sup>
Digging force	389 kN / 39.7 t
Breakout force	464 kN / 47.3 t
Operating weight shovel	approx. 106 t
Shovel capacity	up to 6.50 m <sup>3</sup>
Crowd force	630 kN / 64.2 t



case with an SHD undercarriage, a heavy counterweight and larger bucket and stick cylinders for higher bucket volumes and greater digging and breakout forces. Furthermore, all front shovel versions bucket versions are offered directly from the factory.



### **R 964 C Litronic**

Engine output	320 kW / 434 HP
Operating weight backhoe	approx. 74 t
Backhoe bucket capacity	up to 5.00 m <sup>3</sup>
Digging force	308 kN / 31.4 t
Breakout force	335 kN / 34.2 t
Operating weight shovel	approx. 70 t
Shovel capacity	up to 4.50 m <sup>3</sup>
Crowd force	500 kN / 51.0 t



### **R 964 C SME Litronic**

Engine output	320 kW / 434 HP
Operating weight backhoe	approx. 79 t
Backhoe bucket capacity	up to 4.50 m <sup>3</sup>
Digging force	358 kN / 36.5 t
Breakout force	395 kN / 40.2 t
Operating weight shovel	approx. 78 t
Shovel capacity	up to 5.00 m <sup>3</sup>
Crowd force	500 kN / 51.0 t



### **R 9100 Litronic**

Engine output	565 kW / 757 HP
Operating weight backhoe	approx. 113 t
Backhoe bucket capacity	up to 7.70 m <sup>3</sup>
Digging force	404 kN / 41.1 t
Breakout force	512 kN / 52.2 t
Operating weight shovel	approx. 115 t
Shovel capacity	up to 8.70 m <sup>3</sup>
Crowd force	671 kN / 68.4 t



### **R 984 C Litronic**

Engine output	504 kW / 685 HP
Operating weight backhoe	approx. 123 t
Backhoe bucket capacity	up to 8.00 m <sup>3</sup>
Digging force	416 kN / 42.4 t
Breakout force	550 kN / 56.0 t
Operating weight shovel	approx. 126 t
Shovel capacity	up to 9.00 m <sup>3</sup>
Crowd force	750 kN / 76.4 t



# 2 Wheel loaders

Liebherr wheel loaders employ innovative design and technology to produce power, performance and operating economy throughout the range. The Liebherr drive system combines with the uniquely located diesel engine to ensure high tipping loads and increased productivity. Pulling power and speed are matched automatically to the respective requirements in quarrying operations. The drive concept reduces tyre wear by up to 25% and almost completely prevents wear of the brakes. The lower operating weight and, at the same time, higher degree of efficiency make fuel savings of up to 25% possible. Liebherr wheel loaders guarantee powerful performance, a high level of economy and reduce the burden on the environment in the process.

## **Economy**

Compared to conventional transmission, the Liebherr driveline achieves a reduction in fuel consumption for wheel loaders of 25% or more! This keeps down operating costs and reduces environmental pollution.

## **Performance**

The Liebherr driveline allows the Liebherr diesel engine to be mounted lengthways in the rear, with the output shaft facing backwards. Compared to conventionally driven wheel loaders, the operating weight is much lower, the tipping load is higher, and more material can be moved each operating hour.

## **Reliability**

All the materials used in Liebherr wheel loaders have passed long-term tests to ensure that they match up to Liebherr's exacting standards even in the toughest conditions. The mature concept and proven quality make Liebherr wheel loaders to the benchmark for reliability.

## **Comfort**

The ultra-modern cab design with advanced ergonomics, continuously variable Liebherr driveline for uninterrupted tractive force, standard Liebherr ride control, optimum weight distribution and easy service access thanks to unique engine installation position lead to extraordinary overall comfort.









# Overview of wheel loaders







Protective grille  
for windscreen  
optional

Access assistance for  
cleaning windscreen  
optional



Piston rod protection for  
tilt cylinder optional



Central lubricating system  
optional on L 550 - L 580,  
standard on L 586

Rock bucket



# Overview of technical data



## L 566

Tipping load, articulated	15,550 kg
Bucket capacity	4.0 m <sup>3</sup>
Operating weight	22,500 kg
Engine output	190 kW / 259 HP

## L 576

Tipping load, articulated	17,200 kg
Bucket capacity	4.5 m <sup>3</sup>
Operating weight	24,260 kg
Engine output	200 kW / 272 HP







## L 580

Tipping load, articulated	18,000 kg
Bucket capacity	5.0 m <sup>3</sup>
Operating weight	24,580 kg
Engine output	200 kW / 272 HP



## L 586

Tipping load, articulated	20,430 kg
Bucket capacity	5.5 m <sup>3</sup>
Operating weight	31,380 kg
Engine output	250 kW / 340 HP





# 3

## Crawler tractors

Power and innovative technology: These are the trademarks of the Liebherr crawler tractors. Whether in tough ripping operations or for pushing heavy material, the PR 754 and PR 764 impress in every scenario by outstanding performance and economy.

### Performance

To mechanically dig and break out hard rock, high penetration and pushing forces are required. The Liebherr crawler tractors PR 754 and PR 764 offer the ideal prerequisites with their 40 and 50 tonne operating weights in conjunction with the innovative hydrostatic drive concept. Transmission of the engine power is constant through a positive connection without slip via both tracks, which means that the material is worked loose evenly and efficiently pushed away.

### Economy

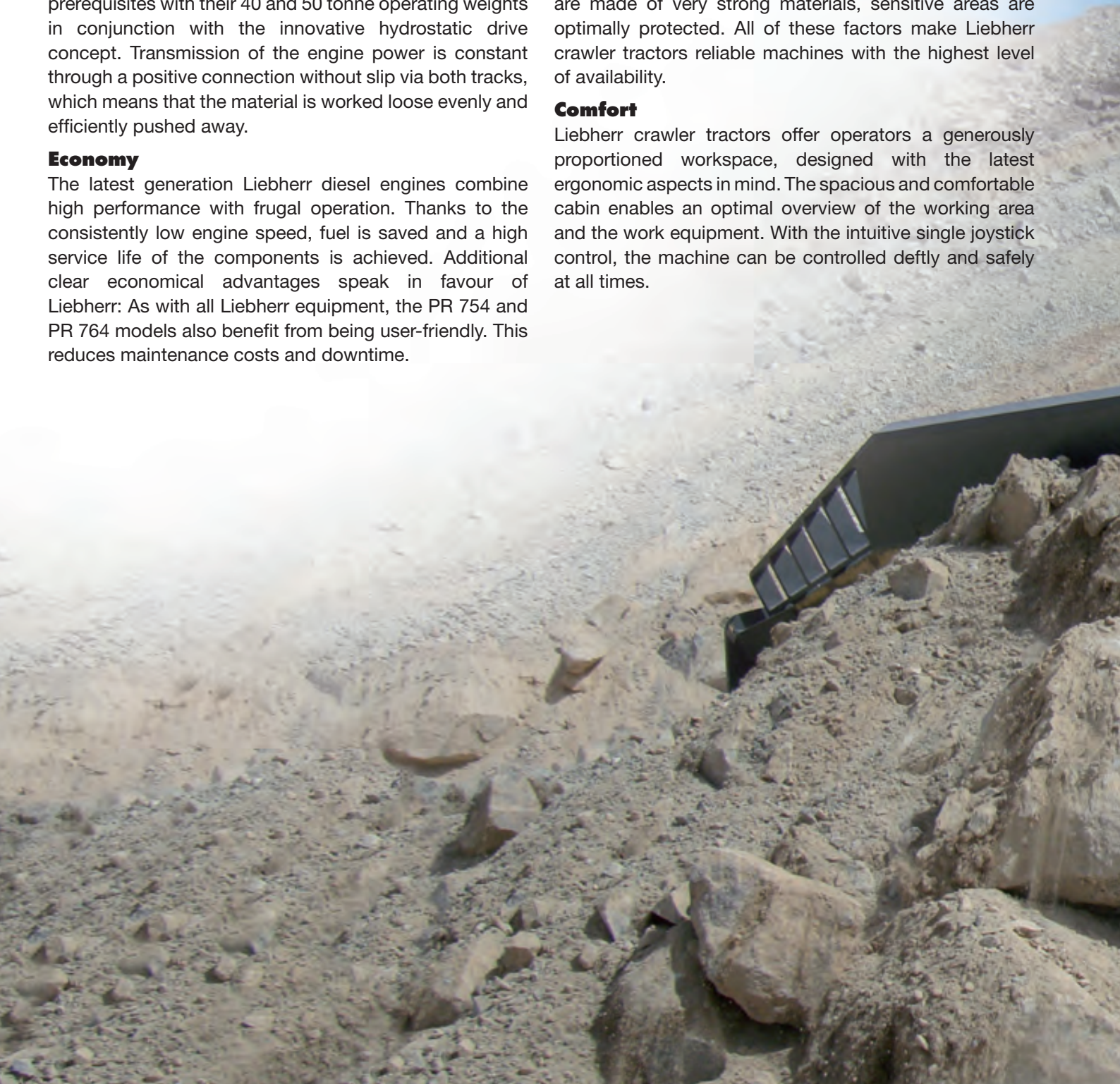
The latest generation Liebherr diesel engines combine high performance with frugal operation. Thanks to the consistently low engine speed, fuel is saved and a high service life of the components is achieved. Additional clear economical advantages speak in favour of Liebherr: As with all Liebherr equipment, the PR 754 and PR 764 models also benefit from being user-friendly. This reduces maintenance costs and downtime.

### Reliability

Tough and sturdy: Liebherr crawler tractors are configured for long life time in terms of construction and material quality. Parts that are subject to particularly heavy loads are made of very strong materials, sensitive areas are optimally protected. All of these factors make Liebherr crawler tractors reliable machines with the highest level of availability.

### Comfort

Liebherr crawler tractors offer operators a generously proportioned workspace, designed with the latest ergonomic aspects in mind. The spacious and comfortable cabin enables an optimal overview of the working area and the work equipment. With the intuitive single joystick control, the machine can be controlled deftly and safely at all times.

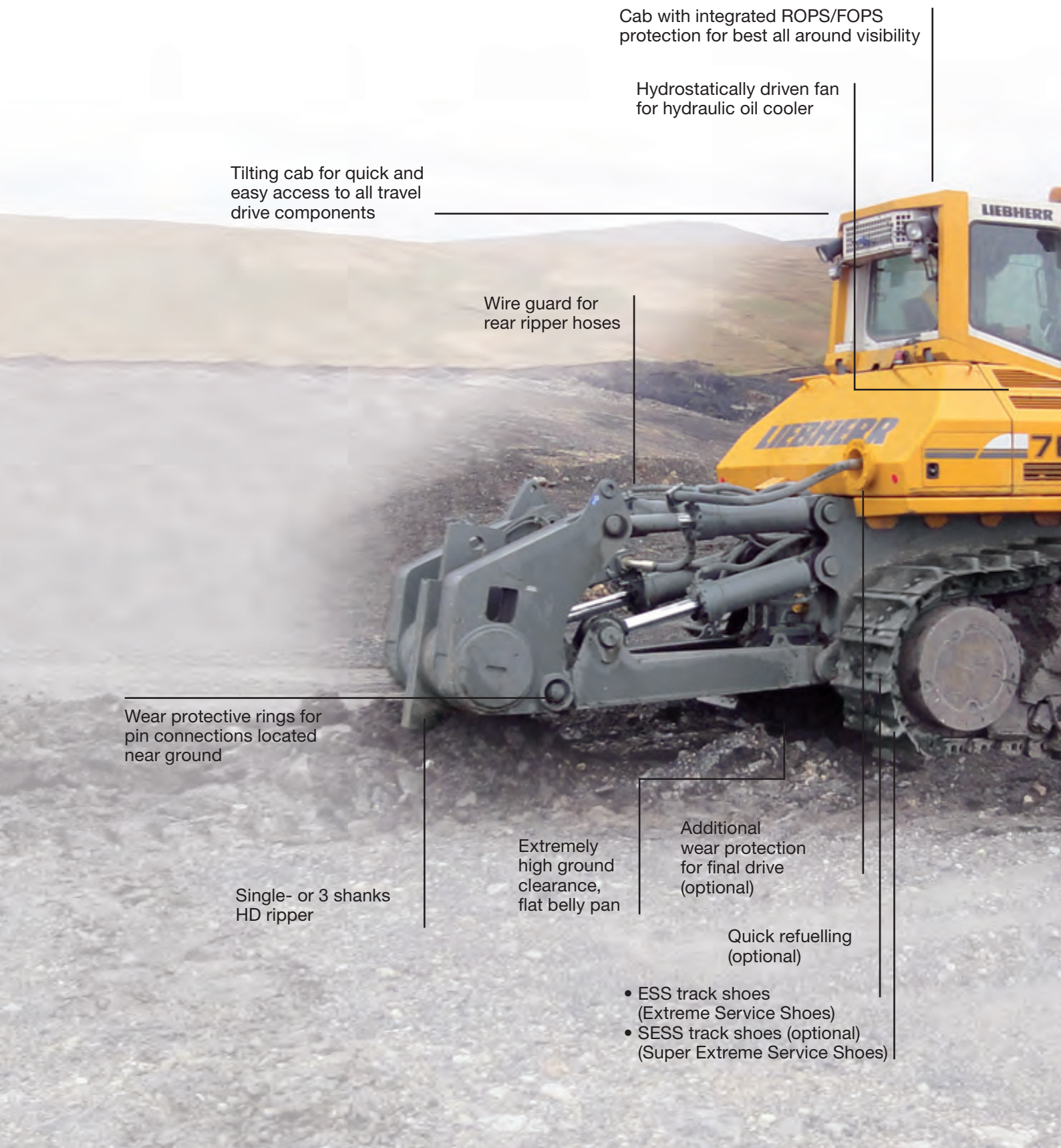








# Overview of crawler tractors



Cab with integrated ROPS/FOPS protection for best all around visibility

Hydrostatically driven fan for hydraulic oil cooler

Tilting cab for quick and easy access to all travel drive components

Wire guard for rear ripper hoses

Wear protective rings for pin connections located near ground

Single- or 3 shanks HD ripper

Extremely high ground clearance, flat belly pan

Additional wear protection for final drive (optional)

Quick refuelling (optional)

- ESS track shoes (Extreme Service Shoes)
- SESS track shoes (optional) (Super Extreme Service Shoes)





4-stage cleaning  
of engine intake air

Hydrostatically  
driven fan for  
engine water-  
and intercooler

Xenon headlights  
on cab and lift  
cylinders (optional)

Integrated  
hose guide

Various blade versions for  
different materials:

- Semi U-blade: for tough, heavily  
compacted, rocky ground
- U-blade: for slightly less  
compacted ground and gravel

HD rock/spill guard for stone  
and rock protection (optional)

HD wear plates additionally  
welded on blade (optional)

HD cutting edge

Maintenance-free version  
of lower blade connection

Pivot shaft with  
maintenance-free  
bearings

HD wear plates  
on push frames  
(optional)

HD cylinder protection  
(optional)

Two running gear  
versions:  
• Single bogie  
suspension  
• Double link  
bogie suspension

Centrally lubricated  
equalizer bar bearings



# Overview of technical data



## PR 754 Litronic

Operating weight*	39,500 kg
Engine output	250 kW / 340 HP
Blade capacity semi U-blade	8.9 m <sup>3</sup>
Blade capacity U-blade	11.7 m <sup>3</sup>
Ground clearance	630 mm
Max. ripping depth of ripper	1,201 mm
Max. penetration force of ripper	118.2 kN
Max. pryout force of ripper	208.8 kN
Track shoe width	560 mm - 710 mm

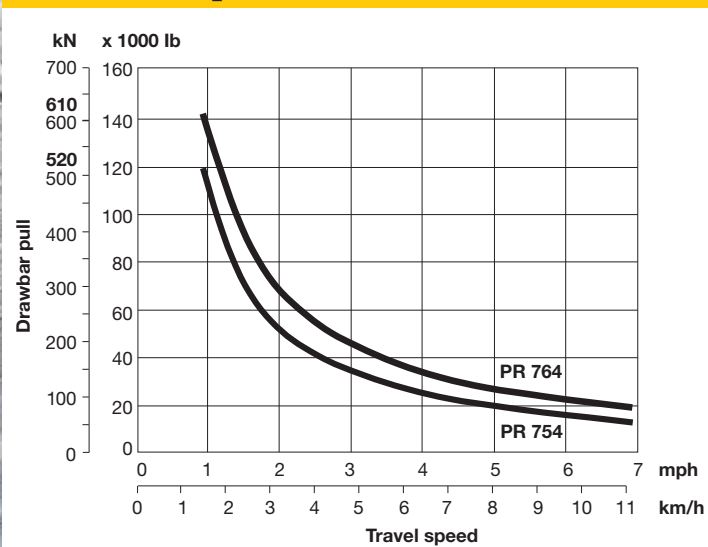
\* Semi U-blade, 560 mm track shoes, Single-shank ripper

## PR 764 Litronic

Operating weight*	50,400 kg
Engine output	310 kW / 422 HP
Blade capacity semi U-blade	13.6 m <sup>3</sup>
Blade capacity U-blade	17.0 m <sup>3</sup>
Ground clearance	695 mm
Max. ripping depth of ripper	1,300 mm
Max. penetration force of ripper	166.9 kN
Max. pryout force of ripper	291.5 kN
Track shoe width	610 mm - 760 mm

\* Semi U-blade, 610 mm track shoes, Single-shank ripper

## Drawbar pull PR 754 / PR 764



Usable drawbar pull depends on traction and operating weight





Highest ground clearance in this performance category



Best gradability thanks low centre of gravity



Best all round vision as a result of integrated ROPS/FOPS protection



Highest ripping performance thanks to high drawbar force and infinitely variable hydrostatic drive system



# 3

## Articulated trucks

Articulated trucks from Liebherr are designed for maximum efficiency and reliability. The key components come from the company's own production and assure consistently high quality and longevity.

### Performance

The TA 230 Litronic is designed for maximum work output. The large dump body in conjunction with the sturdy drive train is a guarantee for efficient quarrying. Even in tough stone breaking operations, the articulated truck impresses by very good driving properties and, thanks to the magnificent retarder performance, is always safely in motion.

### Economy

With a maximum payload capacity of 30,000 kg, the TA 230 Litronic can transport more weight and works more efficiently. Fast turnaround times are achieved by the intelligent drive concept. The simple transportability increases the flexibility of the machine and thereby improves capacity utilisation. Maintenance-free bearings and optimal accessibility of the service points reduce service complexity and downtime.





### **Reliability**

Liebherr offers its customers pioneering solutions for maximum reliability and equipment availability. Installed in the TA 230 Litronic are tried and tested Liebherr components, such as diesel engine, hydraulic cylinders, rotating assembly and the company's own electronics. This equips the machine for tough quarrying operations and provides assurance of absolute operational safety.

### **Comfort**

The modern cab layout offers the driver all of the conveniences for pleasant and productive work. With plenty of space, very good visibility and optimum seating comfort, the cab impresses in terms of ergonomics and well-being. Electronically tilting driver cab and engine cover enable convenient and safe access to all service points and simplify the necessary maintenance measures.





# Overview of articulated trucks

Electrically adjustable  
and heated exterior mirrors

Ergonomic cockpit in spacious  
ROPS/FOPS cab with large,  
one-piece windscreen for best  
visibility

Powerful Liebherr  
6-cylinder  
diesel engine

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Automatic power shift  
transmission with eight  
forward and four reverse  
gears

Good service accessibility  
via hydraulically tilting cab  
and engine cover

Speed:  
57 km/h forwards  
16 km/h in reverse





Standard oil filling with Liebherr high performance hydraulic fluid "Hydraulic Plus"

Trusted Liebherr components from own production, such as hydraulic cylinders, rotating assembly and onboard electronics

Optional chain-actuated dump body flap

Large dump body volume (19.0 m<sup>3</sup>) and load capacity (30,000 kg), optional dump body heating

Vehicle width below 3.00 m for trouble-free transportation

Hydro-pneumatic front axle suspension for fatigue-minimised work

Heavy duty axles with self-locking differentials

Wet, oil-cooled, maintenance-free multi-disc brakes

Rear area monitoring with camera via Liebherr display



# Overview of technical data



## TA 230 Litronic

Empty vehicle weight (EVW)	approx. 23.3 t
Payload	30.0 t
Loading volume	19.0 m <sup>3</sup>
Engine output	270 kW / 367 HP









# Economy in every operation





## Perfect service for optimal availability

Liebherr specialist plants for the quarrying industry are particularly service friendly. Maintenance tasks can be performed simply at easily accessible service points, which increases availability and cost-effectiveness. At any operating site around the world, Liebherr guarantees fast and effective support: A service network with full coverage is ready around the clock for customer service tasks and replacement parts supply.

The service specialists are trained in the Liebherr factories – precisely where the products are developed and manufactured. With this expertise, Liebherr achieves an exemplary service and repair quality that pays off in every operation onsite and in the workshop. Furthermore, our customers' drivers and workshop personnel are instructed onsite by specially trained Liebherr service staff in the operation, service and maintenance of our equipment.

## Featured service advantages

- Short checkup times and long service intervals assure maximum availability.
- Any deviations from specifications are indicated per code and saved. This data can be called up at any time and also transmitted to the service centre by remote data transfer.
- All assemblies are easily accessible. This means that daily routine service tasks can be performed in the shortest of times.

## Comprehensive service

- Individually adapted service schemes from Liebherr offer bespoke product support programmes.
- With exchange components from the remanufactured, rebuilt and repair programs, the ideal solution is available for every requirement – obviously of the same tested quality provided by the manufacturer.
- In modern equipped logistic centres, more than 80,000 items are stored over 16,000 m<sup>2</sup> of space for the worldwide dispatch of replacement parts for all equipment built by Liebherr. Urgently required replacement parts are available within 24 hours.





# 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, too. 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 120 companies with nearly 33,000 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](http://www.liebherr.com)**



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Subject to technical modifications.