

The complete program

## Lehnhoff ${ }^{\circledR}$ at a glance.

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The company
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\begin{array}{cl}
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\mathbf{8 - 9} & \text { Ideas } \\
\mathbf{1 0 - 1 1} & \text { Hardness } \\
\mathbf{1 2 - 1 3} & \text { Production } \\
\mathbf{1 4 - 1 5} & \text { Full-Liner }
\end{array}
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## Committed to responsibility. Every day anew.

Ernst Günter Lehnhoff established the company in 1960 under the name "Metallbearbeitung Steinbach" (Steinbach Metalworking).


In a small metalworking hall near Baden-Baden in south-west Germany, in 1960 Ernst Günter Lehnhoff began repairing and restoring construction tools. He formed his own engineering firm in 1962 to meet the requirements for innovative high carbon steel equipment for earth-moving machines. In 1966 followed the first customer-specific manufactured specialised backhoe buckets, in 1967 the invention of armoured steel and in 1969, the invention of the first tilting bucket. „Tailor-made solutions for the special demands in practice", was the goal of company founder Ernst Günter Lehnhoff right from the start and for Lehnhoff, this goal has never changed.



## Quality can be planned for.



Lehnhoff products have been at home on the building sites of Europe for 50 years. In accordance with our tried and tested motto: „Gained in practice, for use in practice", we meet the specific demands of our customers. We solve problems there, where they arise: on the building site. Based on our experience, and with our innovative ideas and the extremely high quality of our products and services, we have developed from being a niche supplier into becoming a trendsetter. With close proximity to our clients and a range of products that is constantly being developed further and is completely oriented to the tasks and processes that arise on the building site.



## Changing requirements require a technology that thinks.




The hardest steel, manufactured without compromises.


When the best steel that is available on the market cannot meet the demands that are placed on it then there is only one thing to do: create your own, completely new level of quality. Ernst Günter Lehnhoff set an example in 1963 with his „armoured steel" for protection against wear and tear. The top quality material that is still good enough today. And that comes with the best manufacturing: high-precision with a computer-controlled manufacturing process. This precision begins in the design stage - with computer-assisted design and the full knowledge and experience of the Lehnhoff specialists. This guarantees a consistently high level of quality in series production as well.


## A wide range of manufacturing expertise.



To develop the highest levels of quality is one thing, to keep it that way for the long term is another. So we leave nothing in the manufacturing process to chance and have created ideal foundations for our
 work with a modern range of machinery and our extremely precise working processes. In addition to that come our committed and highlyqualified employees and state-of-the-art technology: Laser cutting stations, controllable robots, CNC controlled processing centres and robotic welding stations. And because we know how capable we are, we place high value on having a high manufacturing penetration. And of course, strict final checks. The reason: only the products that prove themselves here will also prove themselves outside on the construction site.


## Everything can be made. Apart from compromises.



[^0] cubic meter heavy duty buckets for the 130 -tonne class.


## A survey of the Lehmatic ${ }^{\circledR}$ quickcoupler system.

One system idea - two components:

Quickcoupler

Adapter
have, since 2010, Eurotest
Certification from BG Bau, the
German organisation for the construction industry.

The Lehmatic system is a partnership: the quickcoupler with excavator-specific suspension and the adapter for the attachment. Lehnhoff offers matching Lehmatic adapters for all standard
 tools and attachments.



## Lehmatic ${ }^{\circledR}$ quickcoupler system: an idea has caught on.

Higher productivity, better versatility in practical use.
The Lehmatic quickcoupler system turns any hydraulic excavator, from a miniexcavator to a large hydraulic excavator, into a multifunctional tool carrier for all buckets, grabs and demolition tools in its category.


An example for improved profitability: MS/HS 21/25 quickcoupler with a range of excavator suspensions.

## Excavator 18t



Excavator 24t


## Excavator 38t



One adapter size, here the SW 21/25,
for all attachable equipment in the $18-39 \mathrm{t}$ class tried and tested thousands of times.


## Lehmatic ${ }^{\circledR}$ quickcoupler system: The principle.

Two partners for secure connections.


The technical benefits:

- Reliable and long life cycle: automatic adjustment to ensure tolerancefree connection between quickcoupler and adapter
- Long service life, little maintenance due to sealed locking mechanism
- Minimum loss of digging and breakout forces due to optimized kinematics


Automatic lock pin adjustment for a secure quickcoupler position in the adapter, increased resistance to wear and tear, and an extended service life


Choice materials and precise machining for extended service life and maximum functional safety

Changing attachments on a hydraulic excavator in less than a minute? Go for the Lehmatic ${ }^{\circledR}$ quickcoupler system.


Locking sequence mechanically operated quickcoupler
Locking of 5-40t excavator
Change attachments in record time with the Lehmatic ${ }^{\oplus}$ quickcoupler's coupling claws, by picking up, raising, tilting and locking the attachment. What's more: the driver can do this by himself-in no time at all and with no extra help-and can even remained seated thanks to the hydraulic lock function.


## Lehmatic ${ }^{\circledR}$ for miniexcavators (1-6 tonnes).

## Lehmatic ${ }^{\circledR}$ MS01/03 und HS01/03 - the compact ones

- Rugged steel housing with machined contact surfaces for extended service life
- Patented lock system ensures safe and tolerance-free connection between quickcoupler and adapter
- Compact, low-design quickcoupler system reduces breakout force losses to a minimum
- Sealed lock mechanism for long life cycle and low maintenance requirements
- Optional: load hook (2-3t)


## MS - mechanically operated

- Socket wrench locks fast, easily and safely
- Self-locking mechanism sealed inhousing


## MS03

Threaded spindle locks and easily safely Self-locking mechanism


HS - hydraulically operated

- Attachments easily changed without leaving the cab
- Safely locked with spring pressure
- Hydraulically unlocked with singleaction cylinder


## HSO3

Safely locked with spring pressure, unlocked hydraulically

switch to provide protection against inadvertent unlocking.
Locking control performed by a position indicator (check pin) on the quickcoupler

## HSO3 Hydro-Block (H)

Locking and unlocking as with the HSO3 with additional hydraulic blocking of the locking bolts. For stronger mini-excavators from 4.8 tonnes and highly-stressed tools e.g. hydraulic hammers

## Adapter program.



Symlock adapter for backhoe and shovel bucket applications



Adapter frame for backhoe buckets and bucket modification


Screw-on adapter for special bore templates


Weld-on adapter for welding on attachments without bore template


Grab adapter for mounting all types of grabs


Screw-on adapter for demolition tools (hammers etc.)


Special adapter,
e.g. for load hooks

| Quickcoupler Types | MS/HS 01 | MS/HS 03 | HS 03H |
| :--- | :---: | :---: | :---: |
| Excavator category [t] | $0,7-2$ | $1,5-5$ | $4,8-6,5$ |
| Lenght $[\mathbf{m m}]$ | 235 | 295 | 295 |
| Width [mm] | 180 | 200 | 200 |
| Weight appr. [kg] | 15 | 30 | 30 |
| Adapters | SW 01 | SW 03 | SW 03 |
| Coupling shaft $\varnothing[m m]$ | 40 | 50 | 50 |

## Lehmatic ${ }^{\oplus}$-Symlock ${ }^{\oplus}$ Shovel and Backhoe Bucket Applications for Mini and Compact Excavators.

## Symlock ${ }^{\circledR}$-Adapter:

Easily Changing a Backhoe Bucket to a Shovel Bucket. Get even more out of your Lehmatic quickcoupler system with a Symlock ${ }^{\circledR}$ adapter. For all applications requiring more depth and reach, all you have to do is turn around your backhoe or tilt bucket by $180^{\circ}$ with the Symlock adapter, and change from backhoe to shovel applications in no time at all,
for instance

- for picking up or filling up material next to walls
- for excavation work
- in case of limited reach
- in case of obstacles


Symlock adapter SW08


A backhoe bucket with Symlock adapter for normal backhoe applications, is simply rotated by $180^{\circ}$ for shovel bucket applications

## Perfect Fit in Symlock ${ }^{\circledR}$ Adapter.

The Symlock adapter fully supports the Lehmatic quickcoupler system and the benefits it offers. The typical lock plate and coupling shaft on the adapter have been replaced by 2 symmetrically positioned coupling shafts with plane surfaces for the lock surface and pin of the quickcoupler, making for both the conventional position of the attachment in the adapter and a position turned round by $180^{\circ}$.


[^1]Make your mini and compact excavator do even more!

e. g. digging deep with the shovel bucket

and loading it full in spite of an obstacle

## Lehmatic ${ }^{\circledR}$ for hydraulic excavators.

## MS - Mechanical quickcoupler:

 attachments safely locked in no time at all.The quickcoupler is manually locked with the socket wrench, fast and effortlessly - either by the driver or by the staff on the construction site - with no need to readjust the connection.
The lock mechanism's dead center position ensures the safe position of both lock pins.

HS - Hydraulic quickcoupler:
lock your attachments without leaving the cab.
The driver activates the control valve of the quickcoupler with a lockable toggle switch and locks or unlocks the quickcoupler by pressing the button. An optical check pin on the quickcoupler indicates the position of the locking bolts. A safety nonreturn valve and permanent pressurisation ensure that the quickcoupler is kept securely locked and without room for movement.


Operation in cabin by a lockable toggle switch.

Hydraulic cylinder with integrate safety valve, quickcoupler safely locked


Adapter plate for backhoe buckets,tilt buckets, or bucket modification


Screw-on adapter for special bore templates


Weld-on adapter for welding on attachments without bore template


Grab adapter with connecting sidebar for mounting all types of grabs


Screw-on adapter for demolition tools (hammers etc.)


Special adapter, e.g. on-load rotation of load hooks

| Quickcoupler types | MS/HS 08 | MS/HS 10 | MS/HS 21 | MS/HS 25 | HS 40 | HS 100 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Excavator category [t] | $5-12$ | $10-19$ | $18-28$ | $26-40$ | $40-70$ | $70-130$ |
| Length [mm] | 400 | 520 | 545 | 545 | 760 | 1100 |
| Width [mm] | 290 | 395 | 495 | $495 / 600$ | 750 | 1000 |
| Weight approx. [kg] | 75 | 170 | 270 | 310 | $600-800$ | $1300-1500$ |
| Adapters | SW 08 | SW 10 | SW $21 / 25$ | SW 21/25 | SW 40 | SW 100 |
| Coupling shaft $\varnothing[m m]$ | 60 | 70 | 80 | 80 | 100 | 140 |

## Lehnhoff ${ }^{\oplus}$ Variolock ${ }^{\oplus}$.

Quickcoupler with hydraulic coupling function for excavators from 2-130 tonnes.

Variolock ${ }^{\circledR}$ - each attachment is ready for safe use in a matter of seconds.

Changing any attachment with the Variolock full automatic energy circuit coupling system, is effortless, safe and fast. The operator can change any tool including the hydraulic connection at the touch of a button from the comfort of his cab. The hydraulic unit and the tried and tested original Lehnhoff quickcoupler form a compact unit.

e.g. : From grab to tilt bucket in a matter of seconds



## Lehnhoff ${ }^{\circledR}$ Variolock ${ }^{\circledR}$ System.

It's worth it: fully automatic changing of attachments with Variolock ${ }^{\circledR}$.

- Increased efficiency by saving time and manpower
- More efficient working - tool changes are viable even for short working cycles
- Cutting costs by treating machinery, attachments and hydraulic hoses with care
- More safety and comfort for the operator
- Less contamination of the hydraulic system, environmentally friendly
- Prevention of hydraulic hose failure
- Fast - efficient - profitable


## Existing backhoes with Lehnhoff adapter can still be used!

All types of buckets and attachments with original Lehnhoff adapters without hydraulic function can still be used. In this case, only a slight modification is required to ensure the protection of the valve block on the quick coupler.


## Lehnhoff short stroke valves KV!

These have been specifically designed for excavators and attachment tools with maximum oil flow. Maximum flow rate means:

- No dynamic pressure
- Less heat development
- Lower fuel consumption
- Environmentally friendly
- More power - More profit!

Valve plug S-Block

Sleeve valve A-Block


System Variolock ${ }^{\circledR}$ ．
－Compatible with all Lehmatic attachments such as backhoes，rippers etc．
－Safely integrated into the proven Lehnhoff quick coupler system
－Accurate hydraulic connection through patented valve clamping technology
－Minimal pressure loss and less heat development with high oil flow rates
－Robust，easy to clean and maintain
－All Lehnhoff quick coupler systems are Euro Test certified


Technical specification

| Excavator class | Mini excavators | Compact excavators | Hydraulic excavators |  |  | $\begin{aligned} & \text { Large } \\ & \text { excavators } \end{aligned}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Weight | 1，5－6t | 5－12t | 10－19t | 18－28t | 28－40t | 35－55t | 50－70t | 70－90t | 90－130t |
| Variolock quickcoupler | VL30 | VL80 | VL100 | VL210 | VL250 | VL400 | VL700 | VL800 | VL1000 |
| Lehnhoff short stroke valves |  |  |  |  |  |  |  |  |  |
| KV1＞DN12 $\hat{=} 11 / 2^{\prime \prime} \quad 110$ | 5 | 3 | 3 | 2 | 2 | 6 | 6 | 6 | 6 |
| KV2＞DN16 $\xlongequal[=]{5 / 8 " 160}$ |  | 2 |  |  |  |  |  |  |  |
| KV3＞DN20 へ 3／4＂ 240 |  |  | 2 | 1 | 1 | 1＋＊ | 1＋＊ | 1＋＊ | 1＋＊ |
| KV4＞DN25 へ 1＂ 550 |  |  |  | 2 | 2 |  |  |  |  |
| AV6＞DN38 へ 11／2＂ 750 |  |  |  |  |  | 2 | 2 | 2＋＊ | 2＋＊ |
| Automatic tool recognition＊ | － | － | － | － | － | － | － | － | － |
| Electric power supply＊ | － | $\bullet$ | － | － | － | － | － | － | － |
| Tool Data Management（TDM）＊ | － | － | $\bullet$ | $\bullet$ | － | － | $\bullet$ | $\bullet$ | $\bullet$ |

[^2]
## Lehnhoff ${ }^{\circledR}$ Variolock ${ }^{\circledR}$ for Mini and Compact excavator. VL30 / VL80

Variolock turns your hydraulic excavator into an all-round specialist

The hydraulic excavator has developed into a multi-purpose equipment carrier that makes it necessary to perform frequent changes of tools. With the Variolock quickcoupler system, all types of hydraulic and nonhydraulic attachments can be changed safely in a matter of seconds. This will lead to more efficient working practices and reduce wear on the attachments due to it being able to be used more efficiently.

5 short stroke valves for all toolsall functions including oil leakage pipe

When locking the quick coupler to the adapter, the valves are automatically opened and kept pressurised by an active clamping support. The extreme short stroke of $0-3.5 \mathrm{~mm}$ now allows full oil flow. The quick coupler is always locked securely and without play by using continuous pressure.

| Variolock type | VL30 | VL80 |
| :--- | :---: | :---: |
| Excavator cat. [t] | $1,5-6$ | $5-12$ |
| Length [mm] | 295 | 400 |
| Width [mm] | 200 | 290 |
| Weight approx. [kg] | 50 | 90 |
| Adapter size | SW 03 | SW 08 |
| Valves | $5 \times$ KV1 | $3 \times$ KV1, 2x KV2 |



S-block: Valve block in the quickcoupler The S-block is flexibly and centrally mounted on the underside of the quickcoupler and consists of 5 short stroke valves which connect all the hydraulic circuits of the attachments securely and leak-free with the working hydraulics of the excavator.

A-block: Valve block on the adapter/ attachment
The A-block which is attached to the adapter of the working tool can be optimally adapted to the respective tool functions with up to five valves. The Lehnhoff short stroke valve forms a plane surface with the surface of the block and is easy to maintain.


Symlock ${ }^{\circledR}$ tilt bucket
Thanks to symmetric valve geometry, you can alsouse hydraulic tilt buckets as shovel buckets with the help of a Symlock adapter.

Examples of hydraulic attachments that are ready for use with your mini-excavator in a matter of seconds:


## Lehnhoff® Variolock ${ }^{\circledR}$ for Hydraulic excavators from 10-40 tonnes. VL100 / VL210 / VL250

Variolock turns your hydraulic excavator into an all-round specialist
The hydraulic excavator has developed into a multi-purpose equipment carrier that makes it necessary to perform frequent changes of tools. With the Variolock quickcoupler system, all types of hydraulic and non-hydraulic attachments can be changed safely in a matter of seconds. This will lead to more efficient working practices and reduce wear on the attachments due to it being able to be used more efficiently.

5 short stroke valves for all tools all functions including oil leakage pipe
When locking the quick coupler to the adapter, the valves are automatically opened. Immediately after locking, the upper valve block (S-block) and lower valve block (A-block) are automatically coupled together by integrated clamping cylinders. The extreme short stroke of the valves of $0-4.8 \mathrm{~mm}$ now allows full flow of oil.

| Variolock type | VL100 | VL210 | VL250 |
| :--- | :---: | :---: | :---: |
| Excavator cat. [t] | $10-19$ | $18-28$ | $28-40$ |
| Length [mm] | 295 | 400 | 400 |
| Width [mm] | 395 | 495 | 600 |
| Weight approx. [kg] | 220 | 350 | 450 |
| Adapter size | SW 10 | SW 21/25 | SW 21/25 |
| Valves | $3 \times$ KV1, 2x KV3 | $2 \times K V 1,1 \times K V 3$, | $2 \times$ KV1, 1x KV3, |
|  |  | $2 \times K V 4$ | $2 \times$ KV4 |



S-block: Valve block on the quickcoupler The S-block is flexibly mounted on the quickcoupler and contains a total of 5 short stroke valves which ensure a safe and leak-free connection between the hydraulic circuits of the attachments and the working hydraulics of the excavator. Two integrated clamping cylinders securely clamp both valve blocks together.

A-block: Valve block on the adapter/ attachment
The A-block which is attached to the adapter of the working tool can be optimally adapted to the respective tool functions with up to five valves. The Lehnhoff short stroke valve forms a plane surface with the surface of the block and is easy to maintain.


## Locking operation

When locking the quickcoupler to the adapter, the valves are automatically opened and kept pressurised by an active clamping support. The extreme short stroke of $0-4.8 \mathrm{~mm}$ now allows full oil flow. The quickcoupler is always locked securely and without play by using continuous pressure.

Examples of hydraulic attachments that are ready for use with your hydraulic excavator in a matter of seconds:


## Lehnhoff® ${ }^{\oplus}$ Variolock ${ }^{\circledR}$ for large excavators 35 to 130 tonnes. VL400 / VL700 / VL800 / VL1000

Variolock quickcoupler for heavy duty use
The „large" Lehnhoff Variolock quickcouplers enable the costeffective and efficient use of large-scale hydraulic attachments under even the harshest conditions in the mining industry, in heavy demolition work, recycling and road construction. The heaviest of equipment such as hydraulic hammers, shears, crushers and concrete crushers with weights of up to 24,000 Kilos can be exchanged quickly, safely and in an environmentally friendly manner by the machine operator alone in his cabin.

Maximum Performance - actively driven valves (AV)
Two valve blocks - protected and integrated symmetrically in housing - contain the required number of actively driven, patented flat valves (AV6). With their extremely high oil flow of 720 litres/minute with a minimal loss of pressure ( $\Delta \mathrm{p} \leftrightarrows 8 \mathrm{bar}$ ), they provide efficient and powerful operation for all tools.

| Variolock type | VL400 | VL700 | VL800 | VL1000 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Excavator cat. [t] | $35-55$ | $50-70$ | $70-90$ | $90-130$ |
| Length [mm] | 760 | 760 | 1100 | 1100 |
| Width [mm] | 750 | $750 / 800$ | 1000 | 1000 |
| Weight approx. [kg] | 700 | 870 | 1400 | 1750 |
| Adapter size | SW 40 | SW 40 | SW 100 | SW 100 |
| Valves | 6x KV1, 1x KV3 | 6x KV1, 1 KKV3, | 6x KV1, 1x KV3, | 6x KV1, 1x KV3, |
|  | 2x AV6 | 2x AV6 | min. 2x AV6 | min. 2x AV6 |




## Lehnhoff ${ }^{\oplus}$ - Powertilt ${ }^{\oplus}$.

## Tilt function for more flexibility and efficiency.

Lehnhoff-Powertilt: The perfect combination of all the benefits of a quickcoupler with those of a tilt motor. The ideal solution for the proper and effective cleaning of ditches, for sloping and filling work.
The Lehnhoff-Powertilt operates with a wide variety of excavating attachments, especially also with narrow buckets.

- Enormous operating range: up to $2 \times 90^{\circ}$ tilting angle, both sides $\left(180^{\circ}\right)$
- Tilt motor sealed and protected against damaging
- High retaining forces and rugged design for heavy-duty applications
- Ideally suited for narrow buckets and compact attachments
- A plus for water-supply and sewage construction
- Combinable with all Lehnhoff quickcouplers (MS / HS / VL)


Powertilt ${ }^{\circledR}$ tilt motor with
Lehmatic ${ }^{\circledR}$ quickcoupler

| Excavator [t] | -2 | $2-5$ | $5-7$ | $7-9$ | $9-13$ | $13-20$ | $20-27$ | $27-35$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lehmatic | MS/HS 01 | MS/HS 03 | MS/HS $03 / 08$ | MS/HS 08 | MS/HS 10 | MS/HS $10 / 21$ | MS/HS 21 | MS/HS 25 |
| e.g. Variolock | - | VL 30 | VL $30 / 80$ | VL 80 | VL 100 | VL $100 / 210$ | VL 210 | VL 250 |
| Powertilt | PTS 4.5 | PTS 6 | PTS 7 | PTS 8 | PTS 9 | PTS 10 | PTS 11 | PTS 12 |
| Tilting angle | $2 \times 90^{\circ}$ | $2 \times 90^{\circ}$ | $2 \times 90^{\circ}$ | $2 \times 90^{\circ}$ | $2 \times 70^{\circ}$ | $2 \times 70^{\circ}$ | $2 \times 70^{\circ}$ | $2 \times 70^{\circ}$ |
| Weight approx. $[\mathbf{k g}]$ | 60 | $75 / 85$ | $105 / 145$ | 195 | 260 | $295 / 385$ | 545 | 680 |

## Lehnhoff ${ }^{\text {- }}$ Rotator.

$360^{\circ}$ infinite rotation combined with the Lehnhoff quickcoupler system. Increase the range of action of your attachments up to $360^{\circ}$ with infinite left/ right rotation. The Lehnhoff rotator enables more flexible work due to an increase in the number of working positions. By simply rotating through $180^{\circ}$, a backhoe bucket can quickly become a front shovel for example.

- Left/right infinite rotation
- Rotary drive is installed at the lowest height - which leads to more breakout force
- Optional oil rotary feedthrough
- Can be combined with all Lehnhoff quickcoupler systems (MS / HS / VL)
- Selectable with direct or quickcoupler suspension on the excavator side.


Rotator with full-hydraulic quickcoupler Variolock


Rotator with quickcoupler suspension on the excavator side (Sandwich)

| Excavator [t] | $2-2,5$ | 2,4-3,5 | 3-6 | 5-8,5 | 8-11 | 10-18 | 17-25 | 24-33 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lehmatic | MS/HS03 | MS/HS03 | MS/HS03 | MS/HS08 | MS/HS08 | MS/HS10 | MS/HS10/21 | MS/HS21/25 |
| e.g. Variolock | VL 30 | VL 30 | VL 30 | VL 80 | VL 80 | VL 100 | VL 210 | VL 250 |
| Rotator | RB 20 | RB 35 | RB 60 | RB 85 | RB 110 | RB 180 | RB 250 | RB 330 |
| Weight approx [kg] | from 90 | from 90 | from 125 | from 230 | from 230 | from 410 | from 540 | from 750 |
| Work pressure |  |  |  | 175 bar |  |  |  |  |

## Lehnhoff ${ }^{\bullet}$ - Rototilt ${ }^{\bullet}$.

Lehmatic ${ }^{\oplus}$ with Rototilt ${ }^{\oplus}$ - a maximum of versatility for a wide range of applications.
Together with the Lehmatic quickcoupler system, the hydraulic Rototilt ${ }^{\oplus}$ notably extends the scope of application of a hydraulic excavator with the Tiltrotator acting like a wrist between the excavator and the attachment. An integrated control system allows for continuous rotation and swivelling up to $40^{\circ}$ in either direction. Attachments are safely and easily changed, even without leaving the cab in the case of the hydraulic quickcoupler.

- $360^{\circ}$ continuously rotatable, tiltable $40^{\circ}$, both sides
- Simultaneous control of rotating, tilting and add-on functions
- Either with direct suspension or with quickcoupler suspension
- Combinable with all Lehnhoff Quickcouplers (MS / HS / VL)



## Lehnhoff ${ }^{\oplus}$ - TiltRotator.

Lehmatic ${ }^{\circledR}$ with TiltRotator - Compact tiltrotator with rotary motor for a larger radius of action and more manoueverability for your attachments.
Thanks to the Lehnhoff TiltRotator, it is possible to swivel attachments simultaneously in both directions $\pm 55^{\circ}$ and to rotate them infinitely. Combining both functions enables quick and precise spatial positioning. This leads to increased efficiency and productivity.

- $360^{\circ}$ infinitely rotating, $55^{\circ}$ swivellable on both sides
- Highly flexible and precise work due to proportional control system
- Ideal for the excavation of particularly narrow shafts
- With direct suspension or with quickcoupler suspension
- Combinable with all Lehnhoff Quickcouplers (MS / HS / VL)



## Lehnhoff ${ }^{\bullet}$ attachments.

Lehnhoff's high-carbon steel equipment impresses with maximum quality of material and workmanship. Matching steels, drop forgings, cast components, rugged weldments, and Lehborit ${ }^{\circledR} 5000$ cutting edge and wear-resistant plates are the basis for an extremely long service life and thus maximum profitability.
In brief: Quality from Lehnhoff pays off!

## Complete program on a broad basis.

Lehnhoff's high-carbon steel equipment for hydraulic excavators, wheel and crawler loaders provides the best prerequisites for efficient earthworks. The extensive product range services the general construction industry with efficient attachments and offers proven Lehnhoff quality to special branches such as demolition and recycling, landscaping, quarries and gravel works.
Lehnhoff's complete program of backhoe and tilting buckets, buckets and demolition tools is available for all machine categories: from mini/compact excavators via hydraulic excavators to large excavators.



## Lehnhoff ${ }^{\otimes}$ buckets for mini/compact excavators.

Bucket know-how for mini/compact excavators. Just like their big brothers, the backhoe buckets for 0.7 to 12 t mini/ compact excavators satisfy maximum quality demands. The shaping featuring a stretched cutting edge and a curved side cutting edge makes for optimal penetration into the material and full buckets.

- Robust 400 HB steel bucket base
- Lehborit® ${ }^{\circledR} 5000$ ( 500 HB ) cutting edge
- Side cutting edge with 400 HB wear-resistant sheets
- Drop-forged, hardened Lehnhoff teeth (up to CTL 5)
- Easy filling and little wear due to biconical bucket design. Ideally suited for excavating narrow ditches.

Miniexcavators

|  | Excavator |  | Cutting width [mm]/SAE-capacity [Ltr.] |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| MTL 1 | $0,8-1,5 \mathrm{t}$ | $260 / 30$ | $300 / 35$ | $400 / 40$ | $500 / 60$ | $600 / 70$ |  |  |
| MTL 2 | $1,5-2,6 \mathrm{t}$ | $300 / 40$ | $400 / 60$ | $500 / 80$ | $600 / 97$ | $700 / 117$ |  |  |
| MTL 3 | $2,6-3,5 \mathrm{t}$ | $300 / 56$ | $400 / 75$ | $500 / 100$ | $600 / 127$ | $700 / 153$ | $800 / 180$ |  |
| MTL 4 | $3,5-5,0 \mathrm{t}$ | $300 / 66$ | $400 / 96$ | $500 / 130$ | $600 / 162$ | $700 / 195$ | $800 / 230$ |  |
| MTL 6 | $4,8-6,0 \mathrm{t}$ | $300 / 80$ | $400 / 120$ | $500 / 140$ | $600 / 180$ | $800 / 250$ | $1000 / 320$ |  |

Compact excavator

|  | Excavator | Cutting width [mm]/SAE-capacity [Ltr.] |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| CTL 5 | $6,0-8,0 \mathrm{t}$ | $300 / 90$ | $400 / 130$ | $500 / 170$ | $600 / 210$ | $800 / 300$ | $900 / 340$ |  |
| CTL 10 | $8,0-10,0 \mathrm{t}$ | $300 / 105$ | $400 / 155$ | $500 / 200$ | $600 / 255$ | $800 / 360$ | $900 / 410$ | $1000 / 460$ |
| CTL 12 | $10,0-12,0 \mathrm{t}$ | $300 / 130$ | $400 / 170$ | $500 / 225$ | $600 / 280$ | $800 / 395$ | $900 / 450$ | $1000 / 510$ |
|  |  | $1100 / 570$ | $1200 / 620$ |  |  |  |  |  |



Lehnhoff's tilting buckets for 0.7 to 12 t mini/compact excavators are perfectly suited for making ditches or excavating alongside walls or houses.

Ditch cleaning buckets

## Mini excavator

| Excavator |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | Cutting width [mm]/SAE-cap. [Ltr.]

- Large tilting range of $2 \times 50^{\circ}$
- Compact bucket shape for narrow ditches
- Sturdy and wear-resistant: Lehborit 5000 ( 500 HB ) cutting edge and side cutting edge
- Including hydraulic cylinder, pressurizing valve and hoses up to the tilting head
- All buckets are available as rigid version

| Sorting buckets <br> Mini excavator <br> Excavator | Cutting width [mm] / SAE-cap. [Ltr.] <br> spacing width [mm] |  |  |
| :--- | :--- | :--- | :--- |
| MSL 3 | $2,6-3,5 \mathrm{t}$ | $600 / 127 / 50$ | $700 / 150 / 50$ |
| MSL 4 | $3,5-5,0 \mathrm{t}$ | $600 / 162 / 50$ | $800 / 230 / 50$ |
| MSL 6 | $4,8-6,0 \mathrm{t}$ | $800 / 250 / 60$ | $1000 / 320 / 60$ |

Sorting buckets for mini and compact excavators.
To separate all kinds of fine materials from larger materials. The MSL version for mini-excavators with a plasma-torched base. The CSL version for compact excavators with a bucket base made of massive rectangular bars.



[^3]

[^4]
## Lehnhoff® backhoe buckets for hydraulic excavators.

Lehnhoff ${ }^{\circledR}$ backhoe buckets for more efficiency

- Reduced energy consumption
- Increased productivity
- Low wear and tear
- External weld seam protected by protruding base


Advantages of extended bucket base and double conical design of bucket body

- Less digging resistance, easier penetration
- Faster uptake of material
- Easier emptying

front view

top view

Standard: Lehmatic ${ }^{\circledR}$ suspension


Examples:

Direct-suspension

$$
0
$$

On demand: all suspensions available

OQ-suspension
SWA-suspension
CW-suspension

## Lehnhoff ${ }^{\oplus}$ Universal backhoe bucket GP.

Universal backhoe bucket for all-purpose use .
The GP backhoe bucket for all 10 to 50 t excavators is suitable for a variety of excavation projects and equally efficient, lightweight, and long-lasting. An additional sandwich constructed base made of 400 HB steel protects the bucket base from wear and impacts, while at the same time offering good grading features for earthmoving.


| HTL 15GP | Excavator$10-15 t$ | Cutting width /SAE-capacity [m³/weight* |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 400/0,18/315 | 500/0,25/325 | 600/0,33/350 | 700/0,40/390 | 800/0,48/440 | 900/0,56/475 | 1000/0,64/505 |
|  |  | 1100/0,72/560 | 1200/0,80/620 |  |  |  |  |  |
| HTL 20GP | 15-19t | 400/0,22/340 | 500/0,30/350 | 600/0,38/380 | 700/0,47/435 | 800/0,56/465 | 900/0,66/495 | 1000/0,75/525 |
| HTL 35VS |  | 1100/0,85/585 | 1200/0,94/615 | 1300/1,04/645 | 1400/1,13/675 |  |  |  |
| HTL 25GP | $18-23 \mathrm{t}$ | 600/0,43/470 | 700/0,53/605 | 800/0,63/640 | 900/0,73/690 | 1000/0,84/740 | 1100/0,94/820 | 1200/1,05/850 |
|  |  | 1300/1,16/880 | 1400/1,26/930 | 1500/1,37/990 |  |  |  |  |
| HTL 30GP | $22-28 t$ | 600/0,48/620 | 800/0,70/680 | 1000/0,93/730 | 1200/1,17/830 | 1400/1,41/880 | 1500/1,53/990 | 1600/1,65/1070 |
| HTL 35GP | 26-40t | 800/0,85/790 | 1000/1,13/900 | 1200/1,42/990 | 1500/1,87/1170 | 1600/2,02/1230 | 1800/2,32/1430 |  |
| HTL 40GP | $40-50 \mathrm{t}$ | 1000/1,34/1200 | 1200/1,69/1300 | 1400/2,04/1550 | 1500/2,22/1620 | 1600/2,40/1700 | 1800/2,76/1900 |  |

[^5]
## Lehnhoff ${ }^{\text {® }}$ Heavy Duty Backhoe Bucket HD.

Heavy duty (HD) backhoe bucket for demolition and rocks.
The heavy duty backhoe HTL HD for 18 to 50 t excavators holds up to the toughest applications with high break-out forces without any problems at all. The robust welded construction of the bucket body and the extra wear resistance from the 400 and 500 HB steel guarantee a long service life.


Cutting edge made of
Lehborit $5000(500 \mathrm{HB})$
Optimal wear resistance with base of 400 HB steel plus protruding wear strips made of Lehborit 5000 ( 500 HB ).


[^6]
## Special attachments for hydraulic excavators.

Sorting bucket for separating coarse and fine material

- Robust bucket design, base made of solid rectangular web members
- 400 HB steel side wear protection lining, Lehborit 5000 ( 500 HB ) cutting edge
- Tooth system and version as required


|  | Excavator | Cutting width [mm]/SAE-capacity [Ltr.] | Members [mm] |
| :---: | :---: | :---: | :---: |
| HSL 15 | $10-13 t$ | $1200 / 800$ | $40 \times 25$ |
| HSL 20 | $15-19 t$ | $1200 / 940$ | $40 \times 25$ |
| HSL 25 | $18-23 t$ | $1300 / 1160$ | $50 \times 30$ |
| HSL 30 | $22-28 t$ | $1400 / 1410$ | $60 \times 40$ |
| HSL 35 | $26-40 t$ | $1500 / 1870$ | $70 \times 50$ |
| HSL 40 | $40-50 t$ | $1800 / 2800$ | $80 \times 60$ |

## Contour bucket

- Optimised trapezoid design for use on rotators and tiltrotators
- Bi-conical side walls
- Elongated cutting edge, ideal for grading works


Contour bucket


## Lehnhoff ${ }^{\ominus}$ Hydro Universal Buckets for hydraulic excavators.

The all-rounder for working on slopes and excavation work. The new Lehnhoff Hydro universal bucket exists in two different shapes and in two different kinds of tilt drives. The HB-R with its backhoe-shaped curved side cutting edge is ideal for excavation work. The HB-G with a straight side cutting edge is particularly suitable for precise work on slopes and embankments.


HB-R Hydro universal bucket with backhoe type bucket and curved side cutting edge

Rotary actuators with hydraulic rotary motor.
Extremely robust and low-maintenance drive with $2 \times 45^{\circ}$ pivoting angles that reduces the installation height considerably with its embedded rotary motor. As a result, the optimal tearing and breakout force can be achieved.

Tilt unit with hydraulic cylinders.
Robust long-life tilt head with 2 large hydraulic cylinders and piston rod protections, tilt angle $2 \times 45^{\circ}$


[^7]

Tilt head with embedded rotary motor (M)


Tilt head with large hydraulic cylinders (H)


## Lehnhoff® Hydro-Universal Buckets for hydraulic excavators.

HB-R Hydro universal bucket with backhoe type bucket and curved side cutting edge.
Tilt bucket with $2 \times 45^{\circ}$ tilt angle and backhoe type bucket shape ideal for medium and heavy excavations and material handling.

- Sturdy, robust bucket design for long service life:
- Lehborit 5000 ( 500 HB ) blade, 400 HB -steel side cutting edges
- Projecting base protects outer welding seam
- Good grading features with smooth, robust 400 HB-steel base
- Optional: Transverse wear plates on base ( 500 HB ), standard from size HG30


HB-RH
Hydro-Universal bucket and curved side cutting edge and hydraulic cylinders

HB-G Hydro universal bucket with straight side cutting edge. Tilt bucket with $2 \times 45^{\circ}$ tilt angle and straight side cutting edge ideal for excavation and creating slopes and embankments.

- Sturdy, robust bucket design with integrated rear blade and 2 robust inner ribs:
- Lehborit $5000(500 \mathrm{HB})$ blade, 400 HB -steel side cutting edges
- Projecting base protects outer welding seam
- Good grading features with smooth, robust 400 HB -steel base
- With water drain holes on either side
- Optional: transverse wear plates ( 500 HB ) on base, standard from size HG30


HB-GM
Hydro-Universal bucket with straight side cutting edge and rotary motor

Hydro-Universal Buckets deliverable for all suspensions.

- Excavator direct suspension
- Lehmatic-quickcoupler MS/HS
- Variolock quickcoupler VL
- Liebherr quickcoupler SWA/Likufix
- Verachtert quickcoupler CW
- Oilquick quickcoupler 0Q

|  | Type | Excavator class | Cutting width [mm] | Capacity [m] | Weight ca. [kg] | Blade <br> [mm] |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { ㄴ } \\ & \stackrel{O}{0} \\ & \stackrel{0}{0} \end{aligned}$ | HB15-RM/GM | $10-15 t$ | 1400 | 0,58 | 662 | $200 \times 20$ |
|  |  |  | 1500 | 0,64 | 684 |  |
|  | HB20-RM/GM | 15-19t | 1400 | 0,72 | 870 | $200 \times 25$ |
|  |  |  | 1500 | 0,78 | 905 |  |
| 는 | H325-RM/GM | $18-23 t$ | 1500 | 0,90 | 1125 | $200 \times 25$ |
| 0 |  |  | 1600 | 1,00 | 1180 |  |
| 은 | HB30-RM/GM | $22-28 t$ | 1500 | 1,10 | 1385 | $250 \times 30$ |
| = |  |  | 1600 | 1,20 | 1447 |  |
| \# | HB35-RM/GM | $26-40 t$ | 1600 | 1,85 | 1785 | $300 \times 40$ |
| 3 |  |  | 1800 | 2,11 | 1910 |  |
| $$ | HB15-RH/GH | $10-15 t$ | 1400 | 0,68 | 695 | $200 \times 20$ |
|  |  |  | 1500 | 0,73 | 705 |  |
|  | H820-RH/CH | 15-19t | 1400 | 0,80 | 740 | $200 \times 25$ |
|  |  |  | 1500 | 0,87 | 760 |  |
| y | H825-RH/CH | $18-23 t$ | 1600 | 1,20 | 1260 | $200 \times 25$ |
| 를 |  |  | 1800 | 1,37 | 1345 |  |
| \% | HB30-RH/GH | $22-28 t$ | 1600 | 1,37 | 1355 | $250 \times 30$ |
| O |  |  | 1800 | 1,55 | 1440 |  |
| ? | HB35-RH/GH | $26-40 t$ | 1800 | 1,85 | 1750 | $300 \times 40$ |
| .t. | HB40-RH/GH | $40-50 \mathrm{t}$ | 1800 | 2,47 | 2270 | $300 \times 40$ |

## Lehnhoff® Ditch Cleaning Buckets for hydraulic excavators.

Engineering and Design Based on Hands-On Applications. Grading, excavating, cleaning ditches, creating embankments and slopes, you name it, Lehnhoff has the right tilt bucket whatever the task. Choose from 3 different bucket shapes and 2 tilt drives (hydraulic cylinders or rotation motor) for the tilt bucket adapted to your requirements.

Tilt unit with hydraulic cylinders.
Robust long-life tilt head with 2 large hydraulic cylinders and piston rod protections, tilt angle $2 \times 45^{\circ}$

Tilt unit with hydraulic rotation motor.
Extremely robust and compact tilt drive, fully sealed and protected, tilt angle $2 \times 45^{\circ}$


HG-S RS additionally with rear blade


HG-L long curved base


Tilt unit with hydraulic cylinders (H)


Tilt unit with hydraulic rotary motor (M)


## Lehnhoff ${ }^{\circledR}$ Ditch Cleaning Buckets for hydraulic excavators.

HG-S Ditch cleaning bucket - with compact, round bucket shape.
Round-shaped ditch cleaning bucket with $2 \times 45^{\circ}$ tilt angle - ideal for excavating, handling material and cleaning ditches.

- Sturdy, robust bucket design for long service life:
- Lehborit 5000 ( 500 HB ) blade, 400 HB -steel side cutting edges
- Projecting base protects outer welding seam
- Good grading features with smooth, robust 400 HB -steel base
- With water drain holes on either side
- Optional: rear blade ( $150 \times 16 \mathrm{~mm}$ ) for skimming or grading
- Optional: transverse wear plates ( 500 HB ) on base, standard from size HG30


HG-SH-RS
optional: with rear blade

HG-L Ditch cleaning bucket - with long curved base.
Tilt bucket with $2 \times 45^{\circ}$ tilt angle and long curved base - ideal for grading and creating embankments and slopes.

- Sturdy, robust bucket design with integrated rear blade and 2 robust inner ribs:
- Lehborit 5000 ( 500 HB ) blade, 400 HB -steel side cutting edges
- Projecting base protects outer welding seam
- Good grading features with smooth, robust 400 HB-steel base
- With water drain holes on either side
- Optional: transverse wear plates ( 500 HB ) on base, standard from size HG30


HG-LH:
Long curved base with rear blade

Ditch Cleaning Buckets deliverable for all suspensions.

- Excavator direct suspension
- Lehmatic-quickcoupler MS/HS
- Variolock quickcoupler VL
- Liebherr quickcoupler SWA/Likufix
- Verachtert quickcoupler CW
- Oilquick quickcoupler 0Q


| Type | Excavator cat. | Cutting width [mm] | Capacity [m] | Weight <br> ca. [kg] | Blade <br> [mm] |
| :---: | :---: | :---: | :---: | :---: | :---: |
| HG15-S | $10-15 t$ | 1800 | 0,50 | 645 | $200 \times 20$ |
|  |  | 2000 | 0,56 | 680 |  |
| HG20-S | 15-19t | 1800 | 0,60 | 700 | $200 \times 25$ |
|  |  | 2000 | 0,66 | 735 |  |
| HG25-S | $18-23 t$ | 2000 | 0,86 | 915 | $200 \times 25$ |
|  |  | 2200 | 0,95 | 955 |  |
|  |  | 2400 | 1,04 | 995 |  |
| HG30-S | $22-28 t$ | 2000 | 1,25 | 1350 | $250 \times 30$ |
|  |  | 2200 | 1,37 | 1420 |  |
|  |  | 2400 | 1,50 | 1500 |  |
| HG35-S | $26-40 t$ | 2000 | 1,40 | 1500 | $300 \times 40$ |
|  |  | 2200 | 1,54 | 1770 |  |
|  |  | 2400 | 1,70 | 1890 |  |
| HG40-S | $40-50 t$ | 2000 | 1,63 | 2090 | $300 \times 40$ |
|  |  | 2200 | 1,81 | 2240 |  |
|  |  | 2400 | 2,00 | 2420 |  |
| HG15-L | $10-15 t$ | 1800 | 0,50 | 700 | $200 \times 20$ |
|  |  | 2000 | 0,56 | 735 |  |
| HG20-L | 15-19t | 1800 | 0,60 | 740 | $200 \times 25$ |
|  |  | 2000 | 0,66 | 785 |  |
| HG25-L | $18-23 \mathrm{t}$ | 2000 | 0,86 | 970 | $200 \times 25$ |
|  |  | 2200 | 0,95 | 1015 |  |
|  |  | 2400 | 1,04 | 1050 |  |
| HG30-L | $22-28 t$ | 2000 | 1,13 | 1330 | $250 \times 30$ |
|  |  | 2200 | 1,26 | 1385 |  |
|  |  | 2400 | 1,38 | 1465 |  |
| HG35-L | $26-40 t$ | 2000 | 1,37 | 1630 | $300 \times 40$ |
|  |  | 2200 | 1,52 | 1750 |  |
|  |  | 2400 | 1,68 | 1870 |  |
| HG40-L | $40-50 t$ | 2000 | 1,62 | 2050 | $300 \times 40$ |
|  |  | 2200 | 1,80 | 2200 |  |
|  |  | 2400 | 1,98 | 2380 |  |

## Lehnhoff® large excavator buckets.

Heavy-duty buckets for tough excavation work and quarrying.
Heavy duty bucket built for maximum breakout forces when digging out, loosening or loading natural soil on large construction sites or blasted rock in quarries. Available in HD (Heavy Duty) version and SH (Severe Heavy Duty) version.


HD: heavy duty design with 400 and 500 HB wear-
resistant plates on the base

| Excavator SW-type Cutting width [mm]/Capacity direct [m³]/Capacity QC [m] |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| HTL 50 55-70t | HS40 | 1600/3,0/2,9 | 1800/3,5/3,3 | 2000/3,9/3, | 2200/4,4/4,2 |  |
| HTL 60 70-90t | HS80 | 1800/4,0/3,6 | 2000/4,4/4,1 | 2200/4,9/4,6 | 2400/5,5/5,0 |  |
| HTL $7090-110 \mathrm{t}$ | HS80 | 1900/4,8/4,3 | 2000/5,3/4,8 | 2200/5,7/5,2 | 2400/6,3/5,8 | 2500/6,5/6,0 |
| HTL 80110 - 130t | HS100 | 1900/5,5/5,0 | 2000/5,8/5,3 | 2200/6,4/5,1 | 2400/7,0/6,5 | 2500/7,5/7,0 | All values are general values and are dependent upon the bucket stick, the boom and the cutting edge.

SH: severe heavy duty design additionally with shrouds for cutting and side edges

- Long service life and high torsion resistance due to robust weldments and function-specific selection of steels
- Wear protection parts of 400 and 500 HB high-carbon steels
- Wear resistance for SH version additionally with shrouds on cutting edges and side cutting edges as well as corner wear resistance shoes that protect the exterior of the base from abrasive rock
- Cutting edge in straight design, also available as trapezoidal or pointed cutting edge
- Tooth system and version as required
- With direct suspension or with Lehmatic quickcoupler system



## Lehnhoff® bionic ripper teeth.

Lehnhoff's bionic ripper teeth - inspired by nature.
The bionically optimised ripper teeth from Lehnhoff stand for efficiency and stability when ripping and breaking rocks, stones and soils. The ripper teeth are particularly suited for all areas in which it is necessary to concentrate the application of force onto one tooth. The ripping teeth range offers the right size of teeth for all excavators with an operating weight of between 1 and 130 tonnes, whether for a mini-excavator for garden and landscape construction, or for large excavators in the mining industry.


Example areas of application.

- Loosening up of hard or frozen soil
- Demolition work
- Breaking of rocks and stones
- Breaking up street surfaces and concrete slabs
- Clearing work


|  | RZ 10 | RZ 30 | RZ 60 | RZ 80 | RZ 180 | RZ 280 | RZ 380 | RZ 500 | RZ 700 | RZ 900 | RZ 1300 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Excavator cat. | - 1,8 t | - 3,5 t | -6,0 t | - 12 t | - 19 t | - 28 t | - 40 t | - 50 t | - 70 t | - 90 t | - 130 t |
| QC-size | SW 01 | SW 03 | SW 03 | SW 08 | SW 10 | SW 21 | SW 25 | SW 40 | SW 40 | SW 80 | SW 100 |
| Tooth radius [mm] | 500 | 550 | 650 | 750 | 950 | 1150 | 1250 | 1350 | 1450 | 1550 | 1900 |
| Weight [kg] | 32 | 60 | 63 | 120 | 274 | 420 | 450 | 995 | 1050 | 2490 | 2690 |

Bionics - or what does an anteater have in common with a Lehnhoff ripper tooth?
Bionics is a combination of „Biology" and „Technical" and tries to express the idea of principles that have been derived from patterns found in nature being used in technical designs.

In the case of the ripper tooth design, particular attention was paid to the middle claw of the giant anteater which is used to, among others things, tear open termite mounds

The results for the Lehnhoff ripper tooth:

- Optimal penetration due to an improved design
- Increased resistance due to the optimal structure of the ripper teeth and distribution of material
- less wear and tear
- more cost-effective


Middle claw of the giant anteater


## Lehnhoff ${ }^{\bullet}$ tooth systems, cutting edge steels and wear-protection.

Forged, special-steel teeth.
Lehnhoff teeth for backhoe buckets and buckets are included in our program as wear parts for all brands and applications. Dropforged and hardened, they withstand even the toughest loads.

Sleeved tooth for excavators and loaders, type F.


- One-piece, self-sharpening tooth
- Is inserted into the weld-on sleeve on the cutting edge and fixated with a cap and lock
- Smooth backhoe bucket or bucket base due to flush termination with the cutting edge bottom side

| Sleeved tooth, type F |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| LH-No. | Weight $[\mathrm{kg}]$ | $\mathrm{L}[\mathrm{mm}]$ | $\mathrm{B}[\mathrm{mm}]$ | $\mathrm{B}_{1}[\mathrm{~mm}]$ | $\mathrm{H}[\mathrm{mm}]$ |  |  |  |
| $\mathbf{4 0 4}$ | 0,8 | 60 | 50 | 30 | 32 |  |  |  |
| $\mathbf{4 0 0}$ | 1,6 | 90 | 50 | 34 | 34 |  |  |  |
| $\mathbf{4 1 1}$ | 2,2 | 115 | 65 | 34 | 34 |  |  |  |


| Sleeve |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| LH-Nr. | Cap | Weight $[\mathrm{kg}]$ | $\mathrm{L}[\mathrm{mm}]$ | $\mathrm{B}[\mathrm{mm}]$ | Tooth | Tooth lock |
| $\mathbf{0 4}$ | 0,45 | 90 | 50 | 404 | 1005 |  |
| $\mathbf{1 1}$ | 1,1 | 125 | 60 | 400 | 1012 |  |
| $\mathbf{1 1}$ | 1,1 | 125 | 60 | 411 | 1012 |  |

## Exclusively from Lehnhoff: Lehborit ${ }^{\oplus} 5000$.

Wherever high wear resistance is demanded, the right answer is the special steel, Lehborit 5000, developed by Lehnhoff. High mechanical strength makes these rolled and 500 HB hardened wear-resistant steels from Lehnhoff your first choice when it comes to the manufacturing and repair of backhoe buckets and loader buckets.


Backhoe bucket with add-on cutter

## Cutting edge steel Lehborit ${ }^{\oplus}$ 5000M.

For top-quality cutting edges: the universal cutting edge steel Lehborit 5000M: a perfect choice due to ist high strength and excellent wear characteristics.

- Rolled and hardened to 500 HB , with welding bevel
- Extremely wear-resistant and easily weldable
- Available from 16-50 mm thickness
- Also available as add-on cutter



Ditch bucket


Backhoe bucket

## Lehborit ${ }^{\oplus}$ 5000VS wear-resistant steel.

To armor backhoe buckets and buckets: Lehborit 5000VS wear plates. The additional armoring with 500 HB significantly extends the service life of excavating attachments.

- 500 HB hard, extremely wear-resistant and easily weldable
- For bucket manufacturing and repair
- Available from 10-20 mm thickness

| Wear plates |  |  |
| :---: | :---: | :---: |
| Weight $[\mathrm{kg} / \mathrm{m}]$ | $\mathrm{mm}]$ | $\mathrm{S}[\mathrm{mm}]$ |
| 7,9 | 100 | 10 |
| 11,4 | 120 | 12 |
| 9,5 | 80 | 15 |
| 17,8 | 150 | 15 |
| 23,7 | 150 | 20 |
| 31,5 | 200 | 20 |


| Weight [kg/m] | B [mm] | S [mm] | S1 [mm] | B1 [mm] | Welding bevel F |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 17,8 | 150 | 16 | 4 | 25 | $5 \times 45^{\circ}$ |
| 30,1 | 200 | 20 | 6 | 30 | $5 \times 45^{\circ}$ |
| 37,3 | 200 | 25 | 8 | 37 | $5 \times 45^{\circ}$ |
| 47,3 | 250 | 25 | 8 | 37 | $5 \times 45^{\circ}$ |
| 56,1 | 250 | 30 | 10 | 44 | $8 \times 45^{\circ}$ |
| 79,0 | 300 | 35 | 12 | 50 | $9 \times 45^{\circ}$ |
| 89,8 | 300 | 40 | 14 | 55 | $9 \times 45^{\circ}$ |
| 110,1 | 300 | 50 | 17 | 70 | $11 \times 45^{\circ}$ |

## Lehnhoff® ${ }^{\text {® }}$ service and repair.

## Lehnhoff ${ }^{\oplus}$ repair work: You order, we weld.

Flame-cutting, bending, welding, armoring, laser- and drill center machining... From a worn-out cutting edge to a kno-cked-out pin: Lehnhoff professionally and reliably repairs all types of worn or damaged excavating attach-ments, according to the customer's requests and within the agreed time frame.

## Backhoe bucket and loader bucket repair.

Repair and renewal of teeth, cutting edges, bases, side walls, wearprotection parts, and suspensions, including drill center machining.


Worn HD bucket of a 60 tonne mining excavator


With new base, blade, teeth and wear protection after repair work


## Lehnhoff® service and repair.

Repair and complete overhaul of Lehmatic ${ }^{\circledR}$ - quickcouplers.
Time is money: Lehnhoff's well-trained specialists ensure that damaged Lehmatic ${ }^{\circledR}$ quickcouplers are back on the job in no time at all.


Quickcoupler refurbished inside


Lehmatic ${ }^{\circledR}$ claws are machined to the initial
rated dimensions on a drill center after fresh
layers ofmaterial have been welded onto them

Lehnhoff service: bucket modification for the Lehmatic ${ }^{\circledR}$-quickcoupler system.
Lehnhoff supports customers, who have opted for the Lehmatic ${ }^{\circledR}$ quickcoupler system, in retrofitting their attachments. Our experienced service team mounts the adapter plates reliably, in short time.


Other bucket make equipped with Lehmatic® system

## Repair of clamshell buckets and grapples.

Repair and renewal of teeth, cutting edges, and side walls, clamshells, suspended frames and clamshell suspensions, and bearings.


Conversion of usual clamshell grab


To heavy duty version for cleaning river beds

## Flame-cut parts and laser blanks.

Manufacturing of flame-cut parts and laser blanks, rolled base elements and wear-protection sets for backhoe bucketsand buckets. Additionally, sheet-metal of high-carbon steel as per dimensional specifications, sketches or CAD drawings.


100 \% laser cutting quality


Laser and flame cutting to your specifications and drawings

## Lehnhoff Hartstahl GmbH

## Rungsstrasse 10-15

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## Dealers/partners

$\Gamma$
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[^0]:    Lehnhoff supplies a complete range of products: from the small 23 litre capacity mini-excavator buckets up to the 7.5

[^1]:    Quickcoupler turned in adapter by $180^{\circ}$

[^2]:    ＊Option for increased median flowrates
    －Optional extra equipment

[^3]:    Mini sorting bucket with a plasma-torched base

[^4]:    Compact-sorting bucket with a base made of massive rectangular bars

[^5]:    *Weights vary depending on bucket suspension, tooth and cutting edge versions.

[^6]:    *Weights vary depending on bucket suspension, tooth and cutting edge versions.

[^7]:    HB-G Hydro universal bucket with straight side cutting edge

