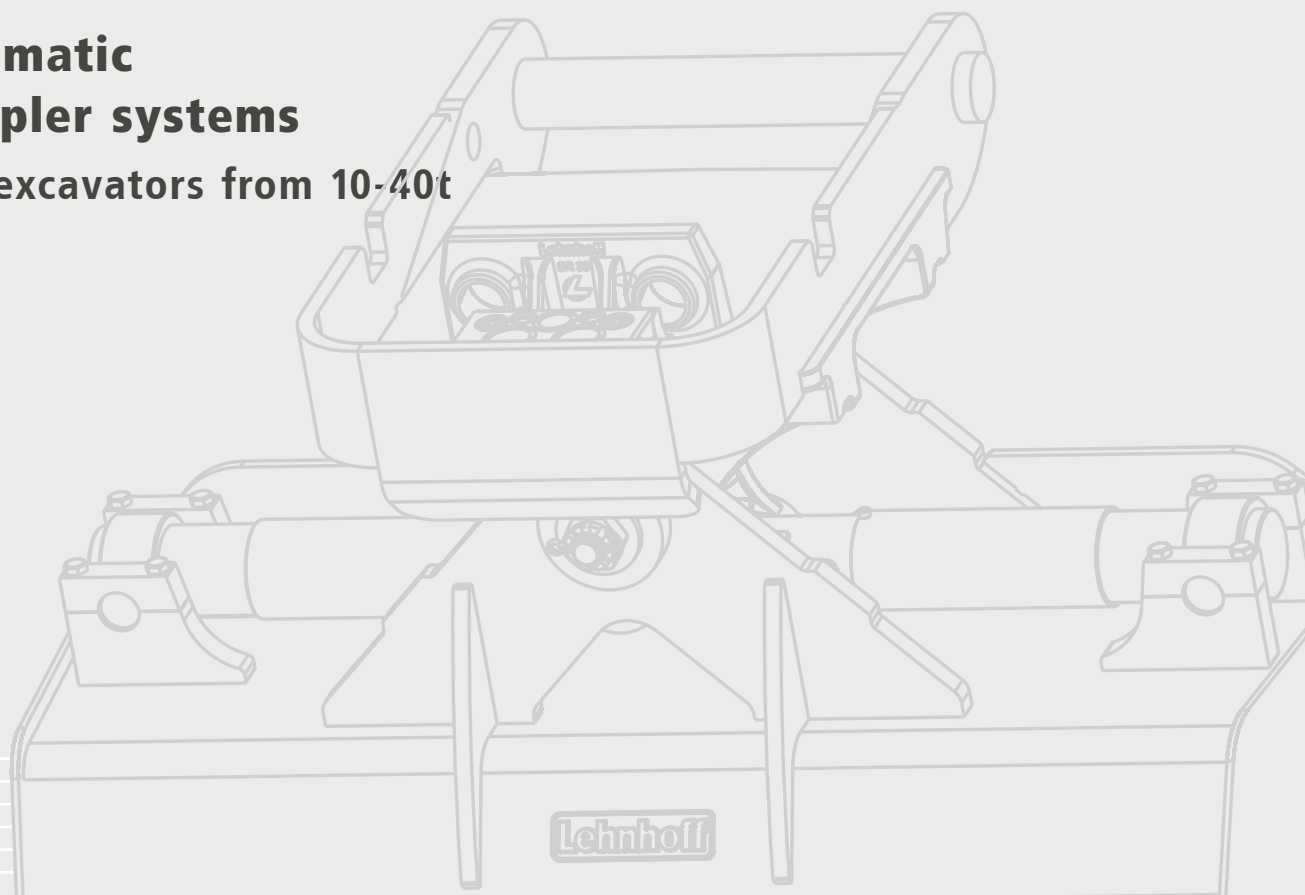




Variolock VL100-250

**Full automatic
quickepler systems**

Hydraulic excavators from 10-40t



Lehnhoff® Variolock system

- ✓ Compatible with all Lehmatic attachments such as backhoes, rippers etc.
- ✓ Safely integrated into the proven Lehnhoff quickcoupler 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 quickcoupler systems are Euro Test certified



Technical specification

Excavator class	Mini excavators	Compact excavators	Hydraulic excavators			Large excavators			
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									
Type	Size	Flow rate (l/min)							
KV1 > DN12 \triangle 1/2"	110	5	3	3	2	2	6	6	6
KV2 > DN16 \triangle 5/8"	160	2							
KV3 > DN20 \triangle 3/4"	240			2	1	1	1+*	1+*	1+*
KV4 > DN25 \triangle 1"	550				2	2			
AV6 > DN38 \triangle 1 1/2"	720						2	2	2+*
Automatic tool recognition*	—	•	•	•	•	•	•	•	•
Electric power supply*	•	•	•	•	•	•	•	•	•
Tool Data Management (TDM)*	—	•	•	•	•	•	•	•	•

* Option for increased median flowrates • Optional extra equipment

Variolock reduces costs.

Existing backhoes can still be used

All types of buckets and attachments with **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 quickcoupler.

- No modification of the quickcoupler adapter required
- Robust valve block protection
- Simple retrofitting to existing backhoe buckets

Tilt buckets and grabs can be retrofitted.

All types of existing tilt buckets with **Lehnhoff** adapters can be cost-effectively upgraded with valve block, hoses and protection. Lehmatic grab adapters for suspended grabs can easily be upgraded to Variolock.

- Valve block (A-block) can be upgraded
- Robust valve block protection
- Fully protected piping



Lehnhoff® Variolock, the intelligent quickcoupler system

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 quick-coupler form a compact unit.

Lehnhoff® quickcoupler systems are proven on over 100,000 excavators

e.g. from **grab** to **tilt bucket** in a matter of **seconds**



It's worth it: fully automatic changing of attachments with Variolock

- ✓ 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

Clamping cylinder

Centring

Tilting, rotating

Hammer, shears, tongs, grab, compactor, milling unit etc.

Variolock turns an excavator into a multi-functional all-rounder



Backhoe bucket

Sorting grab

Tilt bucket

Hydraulic hammer

..... with integrated energy circuit coupling

Design and function

The Variolock system consists of a valve block on the quickcoupler (S-block) and a valve block on the attachment (A-block). When locking the quick coupler to the attachment, the hydraulics are connected at the same time. The Variolock quick coupler always locks securely and without play by maintaining continuous pressure.

Full automatic quickcoupler system by Lehnhoff

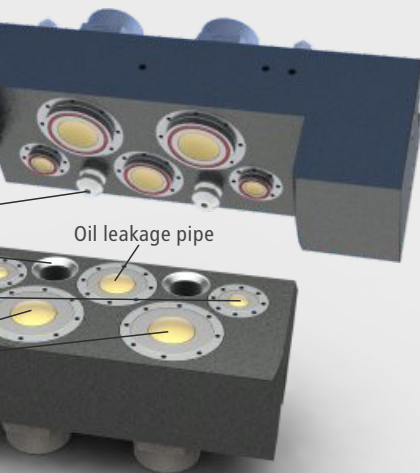
Original Lehnhoff adapter on the attachment

Standard feature: 2 load hooks

Valve block integrated into the quickcoupler (S-block)

Automatic tool recognition
Tool Data Management (TDM)
Electric power supply (optional)

Valve block on the adapter of the attachment (A-block)

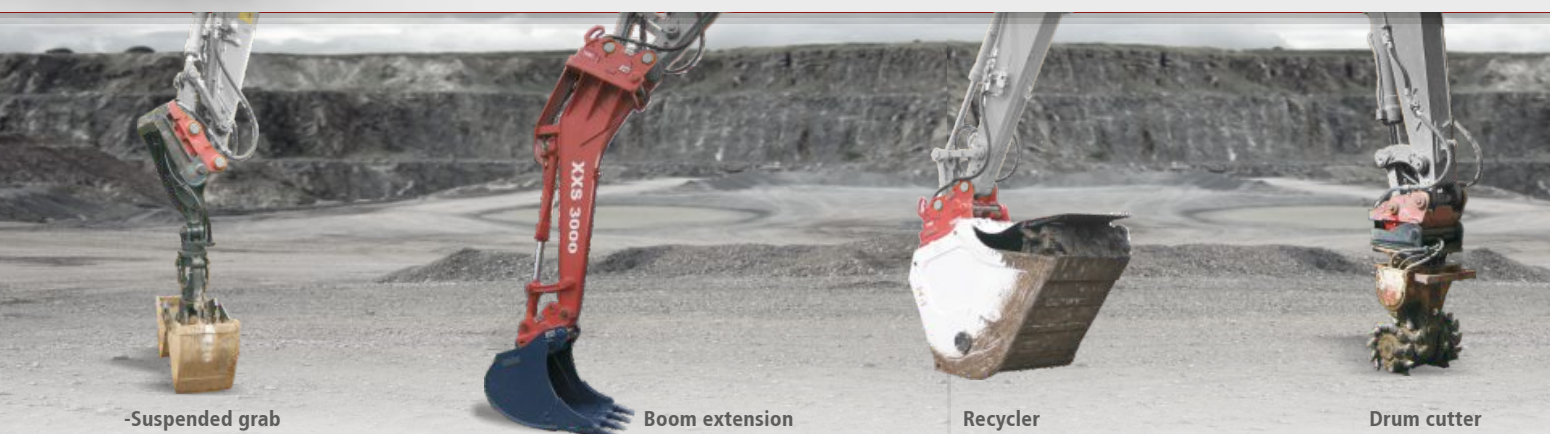


S-block: Valve block on the quick coupler

The S-block is flexibly mounted on the quickcoupler and contains a total of 5 short stroke valves which ensure a safe and sealed 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.



-Suspended grab

Boom extension

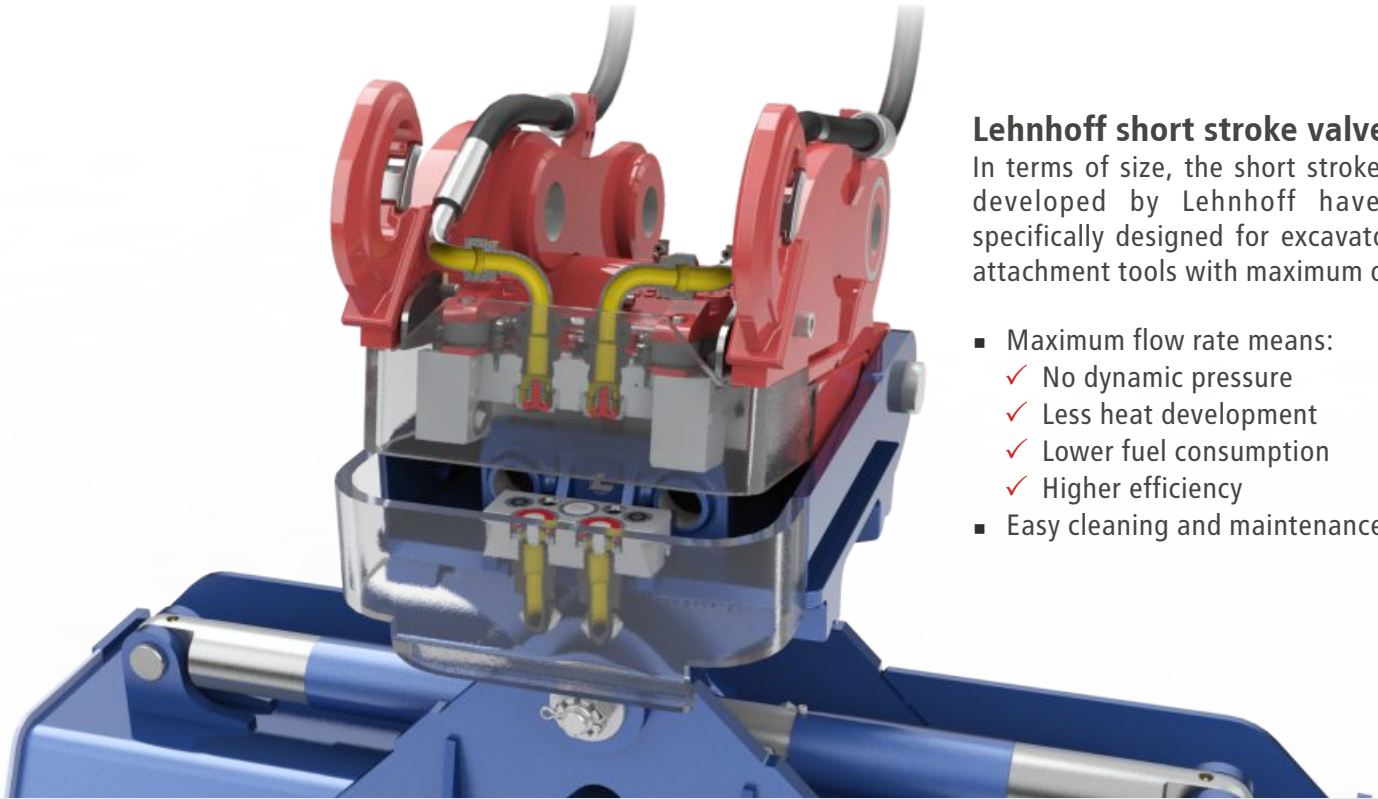
Recycler

Drum cutter

..... **Proven technology for maximum performance and success.**

Locking operation

When locking the quickcoupler 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 0-4.8mm now allows full flow of oil.



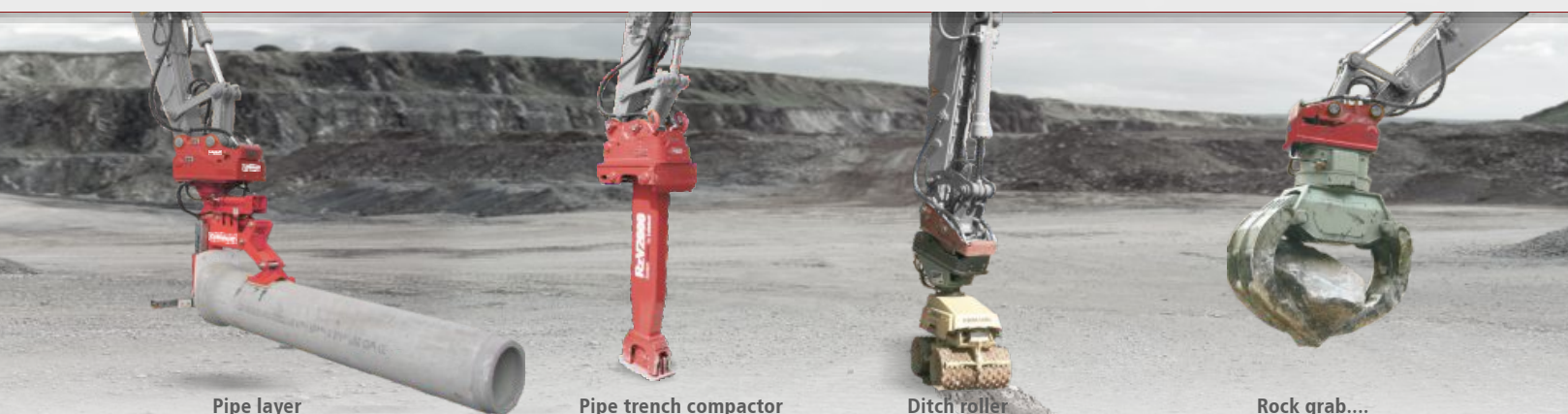
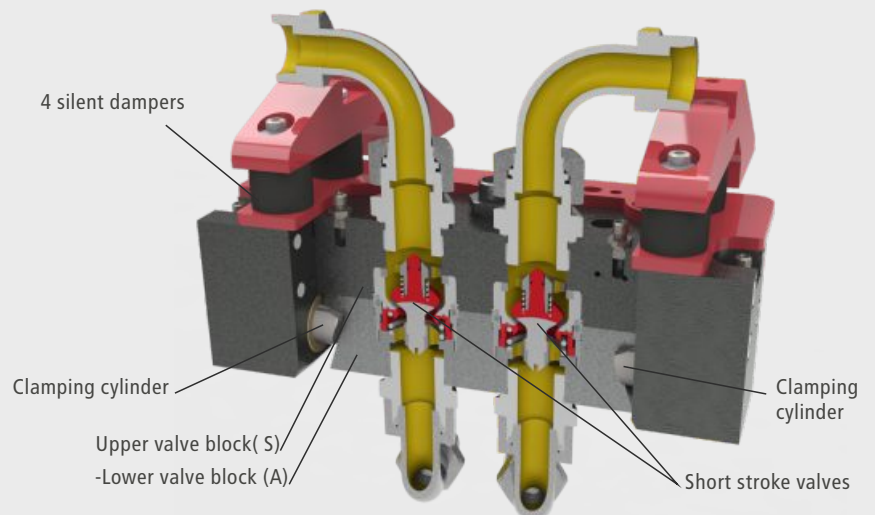
Lehnhoff short stroke valves

In terms of size, the short stroke valves developed by Lehnhoff 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
 - ✓ Higher efficiency
- Easy cleaning and maintenance

Clamping cylinder

The hydraulic connection is flexibly supported by 4 silent dampers with anti-vibration mounts. The patented clamping cylinders absorb the resulting expansion forces between the valve blocks and ensure a safe connection. Wear and tear and the risk of downtime is reduced.



Pipe layer

Pipe trench compactor

Ditch roller

Rock grab....

TDM - Tool Data Management

Automatic tool recognition

The Variolock quick coupler system can be upgraded with integrated tool recognition and operational data logging. The tool-specific parameters of the attachment are programmed into a memory (TAG) which is attached to the adapter. The reader which is located on the quick coupler transports the data to the control unit, the storage unit and subsequent processing.

Power supply

Additional solenoid valves on working tools can only be supplied with excavator voltage via four robust contacts. Any number of energy circuits can be controlled via CAN-BUS technology.

- ✓ Tool recognition
- ✓ Automatic adjustment of operating pressure and flow rate
- ✓ Saving of operational data, such as operating hours, number of tool changes etc.
- ✓ The current working process is shown on the display panel of the control unit
- ✓ Easy to operate lock function
- ✓ Additional monitoring of the locking system on the display panel



TDM: Tool Data Management (optional)

Dealers/partners



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