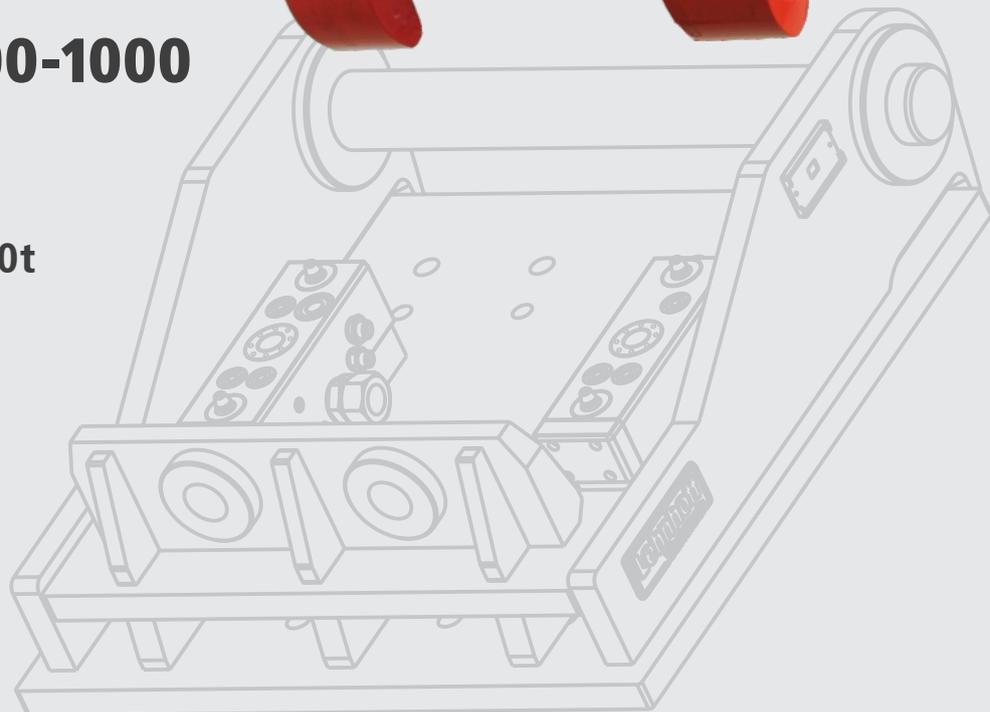


IDEAS THAT WORK.



Variolock VL400-1000

**Full automatic
quickcoupler systems
for large excavators 40-130t**



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

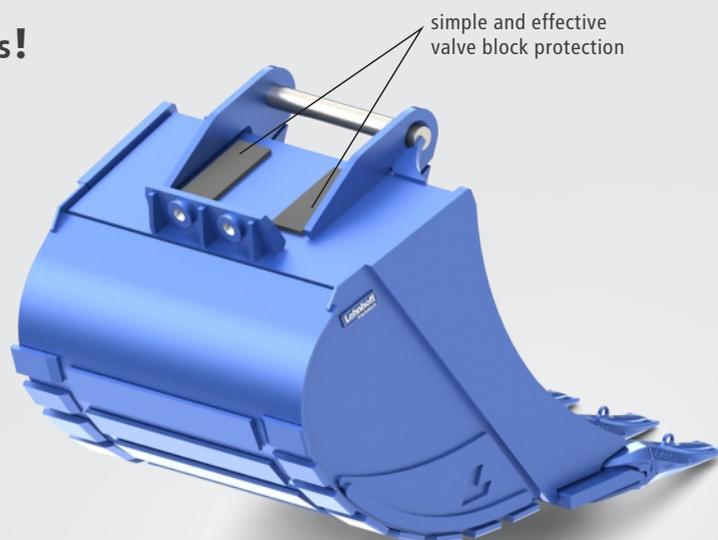
Excavator class	Mini excavators	Compact excavators	Hydraulic excavators			Large excavators			
Weight	1,5-6t	5-12t	10-19t	18-28t	28-40t	35-55t	50-70t	70-90t	90-130t
Variolock quickcoupler	VL30	VL80	VL100	VL210	VL250	VL400	VL700	VL800	VL1000
Lehnhoff short stroke valves									
Type	Size	Flow rate (l/min)							
KV1	> DN12 \triangle 1/2"	110	5	3	3	2	2	6	6
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

No modification of already existing buckets!

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 quickcoupler's valve block..

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



Lehnhoff® Variolock, the heavy duty quickcoupler system

Variolock quickcoupler for heavy duty use

The „large“ Lehnhoff Variolock quickcouplers enable the cost-effective 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.

e.g. from **demolition grab** to **drum cutter** in a matter of **seconds**



Exchanging heavy duty attachments full-automatically 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

Variolock turns an excavator into a multi-functional all-rounder in heavy duty applications



Demolition Grab

Ripper Bucket

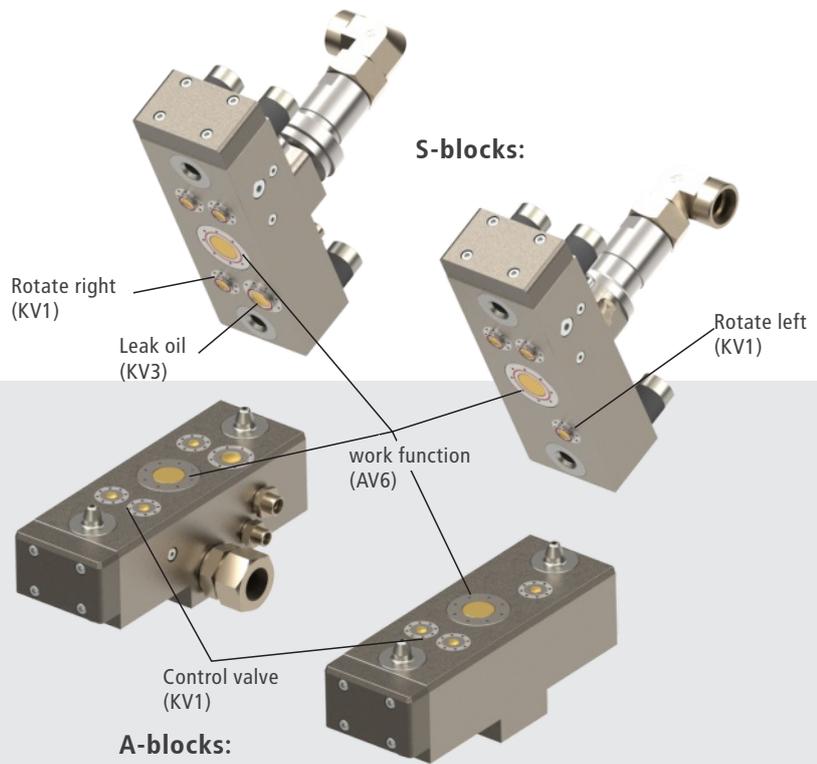
..... with integrated energy circuit coupling

VL400 VL700

Locking operation

After locking the quickcoupler to the adapter, the valves AV6 are controlled actively by the control valves. Due to an active clamping support the valve blocks are kept pressurized. So the occurring spreading forces are compensated and the valves are kept securely in position. In consequence of a permanent pressure admission the quickcoupler is always locked safe and free of play.

**2 actively controlled valves AV6
with more than 750 l/min oil flow**



S-block: Valve block on the quickcoupler

The S-block is flexibly and centrally located on the quickcoupler's bottom side. It contains a sufficient number of valves which ensure a safe and sealed connection between the hydraulic circuits of the attachments and the working hydraulics of the excavator.

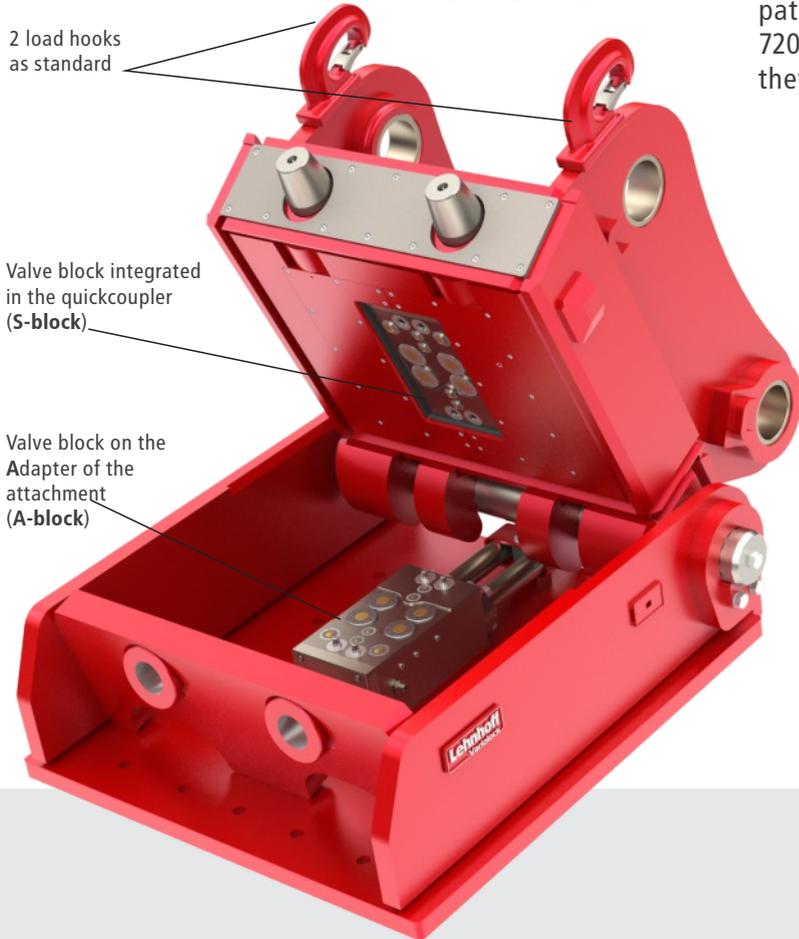


..... **Proven technology for maximum performance and success.**

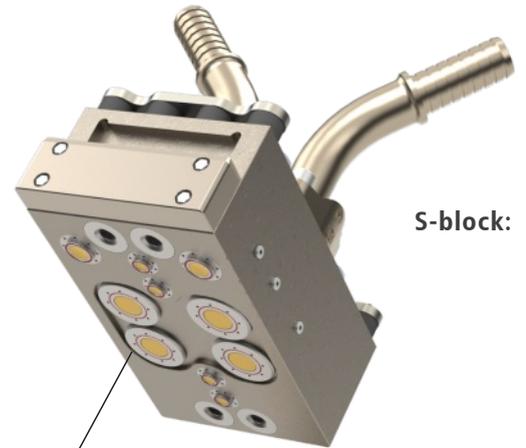
VL800 VL1000

Maximum Performance - actively controlled valves (AV)

1-2 valve blocks – protected and integrated symmetrically in housing – contain the required number of actively controlled, patented flat valves (AV6). With their extremely high oil flow of 720 litres/minute with a minimal loss of pressure ($\Delta p < 8 \text{ bar}$), they provide efficient and powerful operation for all tools.



4 actively controlled valves AV6 with more than 1500 l/min oil flow



work function (AV6)

Rotate right/left (KV1)

Leak oil (KV3)

Control valves (KV1)

A-block:

Additional function (option) (KV3)

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 a corresponding number of valves. The Lehnhoff flat stroke valves form a plane surface with the surface of the block and are easy to maintain.



High-tech for heavy duty applications

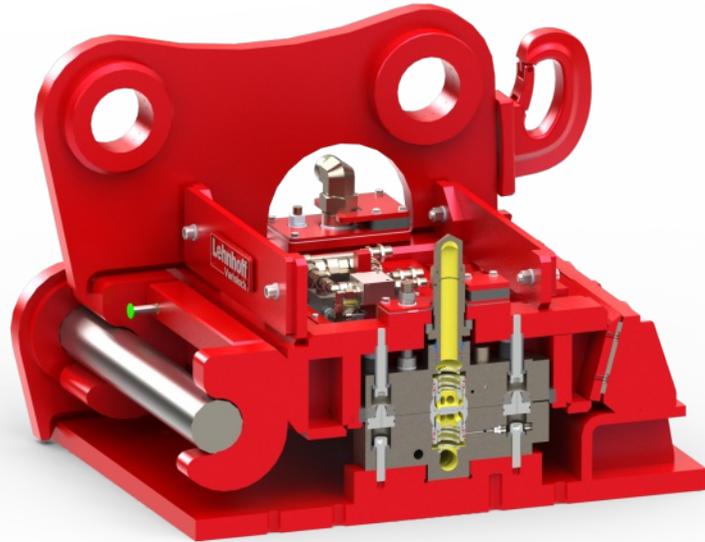
Variolock reduces costs

- Exchanging equipment in seconds
- fastest pay-off!
- 100% efficient!
- Extremely profitable!
- safe- easy - comfortable

Active flat-valves AV6

The active flat-valves developed by Lehnhoff have been specifically designed for excavators and attachment tools with maximum oil flow.

- actively controlled valves
- 750 l/min at $\Delta p < 8$ bar
- lowest oil heating
- minimal loss of energy
- fuel-efficient
- ideal valve position
- quick and easy cleaning and maintenance



Dealers/partners



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