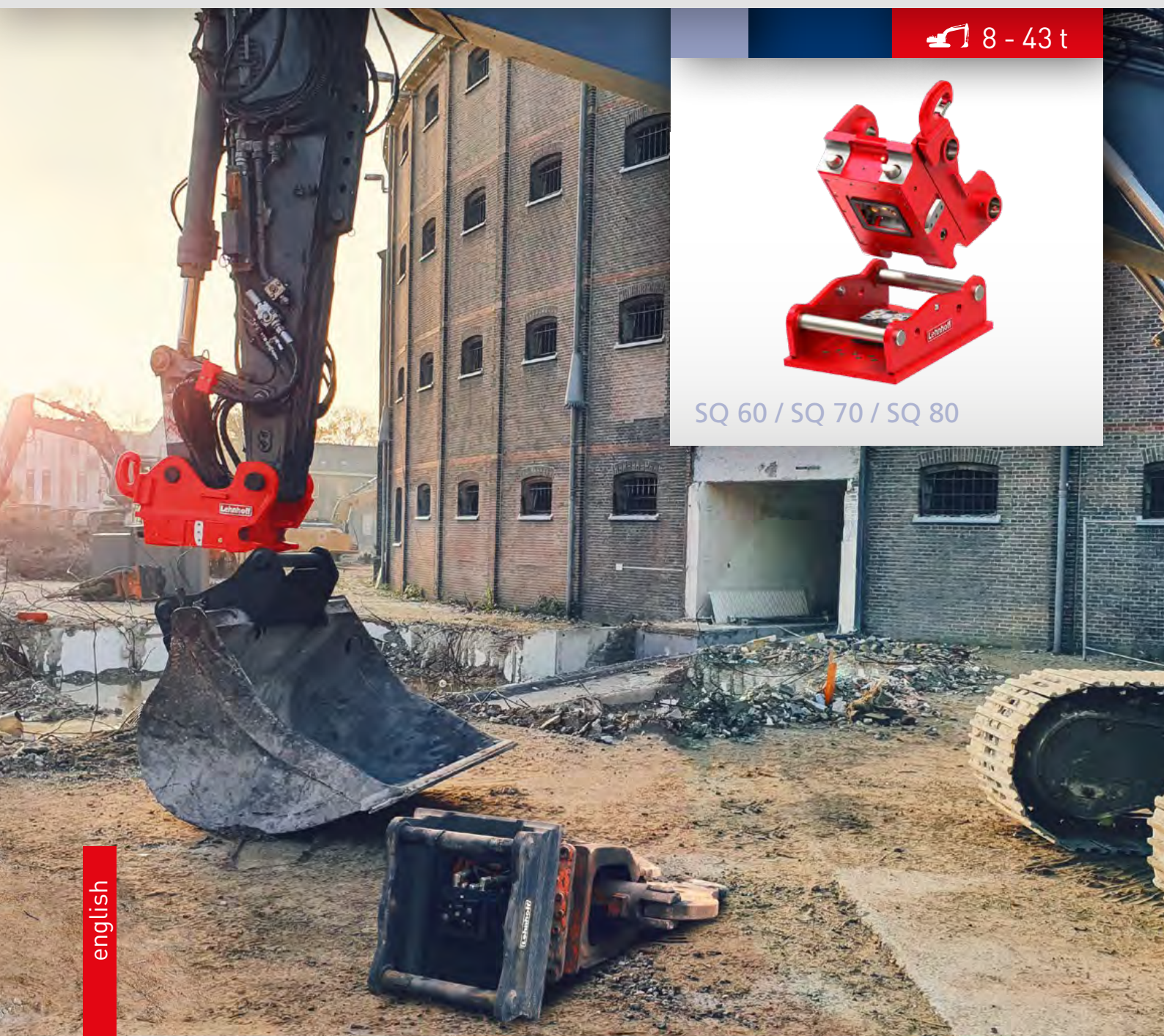


Symmetric Quickcoupler SQ



 8 - 43 t



SQ 60 / SQ 70 / SQ 80

SQ - the symmetrical quickcoupler system by Lehnhoff for excavators from 8 to 43 t

for excavators from 8 to 43 t

With the fully automatic Lehnhoff SQ system, you can change all hydraulic attachments without leaving the cab. The combination of symmetrical quickcoupler and integrated, patented Lehnhoff valve technology gives you investment security and the following advantages:

- Higher profitability due to savings in excavator, personnel and time
- Faster completion of construction sites
- Higher chance of winning public tenders
- Protection of machine, attachments and hydraulic hoses
- More efficient work - tool change even with short working cycles
- More safety and comfort for the driver
- Expansion of your company's range of services



Lehnhoff SQH:

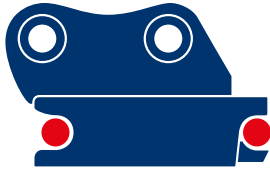
The hydraulic entry

Lehnhoff SQ quickcouplers are designed as fully hydraulic systems. On request, the quickcoupler is also available without valve technology as hydraulic version SQH - of course with all the advantages of the symmetrical standard:

-> more information about SQH on page 7

Lehnhoff SQ: One standard - many possibilities

Lehnhoff SQ quickcouplers are based on the S standard and, thanks to their design, are compact, comparatively light and very robust. The standardised interface with 2 coupling shafts enables the attachment to be rotated by 180 °, i.e. a bucket can be used as a backhoe or shovel bucket.



S-Standard +

Lehnhoff SQ complements the symmetrical concept of the S-standard with an ingenious feature: a symmetrically constructed valve block allows attachments such as a tilting bucket or a crusher bucket to be operated hydraulically in shovel mode. A built-in protection prevents misdirected engagement with attachments that are not intended for reverse mode.

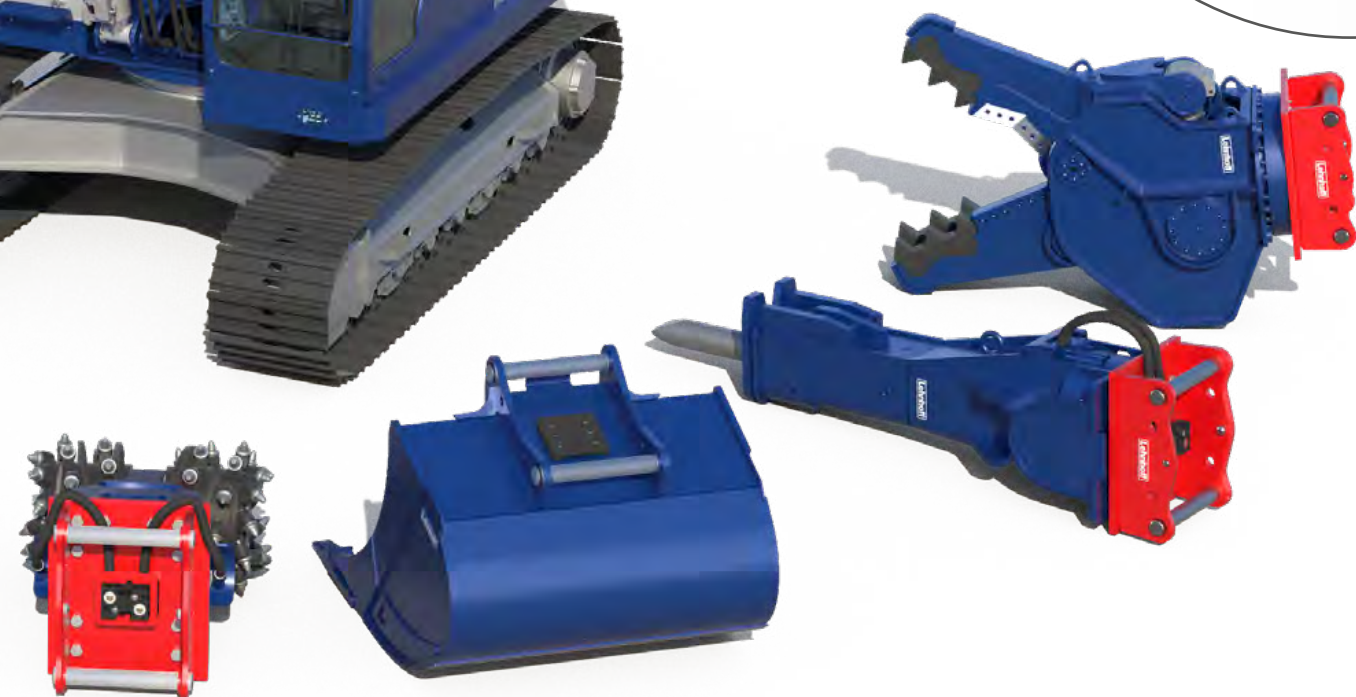


What is the S-standard?

- open industry standard for the interface between excavator and attachment
- ensures compatibility between different manufacturers
- characteristic are two symmetrical arranged shafts
- Size specification refers to shaft diameter (SQ70 = Ø70mm)

Advantages:

- compact, robust, comparably light
- extensive preservation of the excavator's breakout force
- user-friendly and easy to equip or to convert buckets
- well suited for tiltrotator application



Lehnhoff SQ: The technical highlights

- Fully symmetrical valve block arrangement enables 180° rotated application of hydraulic attachments, e.g. tilt buckets, screen buckets, crusher buckets (where appropriate)
- Precise hydraulic connection through patented valve clamping technology
- Lehnhoff short-stroke valves with minimal pressure loss and low heating with highest oil flow rate
- Lehnhoff's patented depressurisation unit integrated in the valve block enables particularly low installation effort
- Particularly easy-to-maintain valve technology (seal change in 2 min. on the site)
- Emergency unlocking and locking - partly possible with socket wrench (SQ70)

first load hook included,
second load hook optional

Valve block integrated in
quickcoupler (S-Block)

Valve block integrated in attach-
ment adapter (A-Block)



Surpasses the safety
requirements of SUVA
from Jan. 2016

Corresponds to
- Machinery Directive
2006/42/EC
- Safety Product Standard
EN 474-1 Appendix B
- ISO 13031 (05-2016)

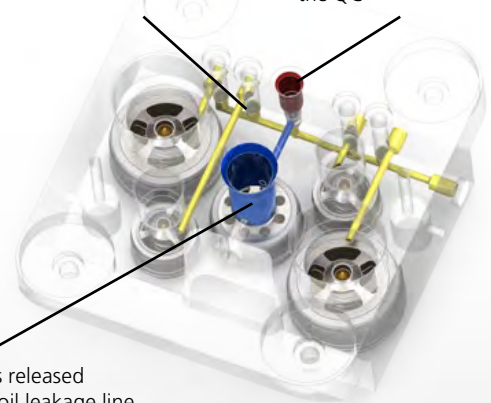
Internal block depressurisation unit

- During the unlocking process, the working line and grab rotation line in the S block and A block are depressurized
- Increases the service life of the valves
- Integrated in the valve block, no need for cost- and time-intensive installation on the excavator
- Intervention in the excavator hydraulics not necessary

All 4 working valves become pressu-
reless when opening the quickcoupler
through this valve

Automatic control for pressu-
reless valve while unlocking
the QC

Pressure gets released
through the oil leakage line

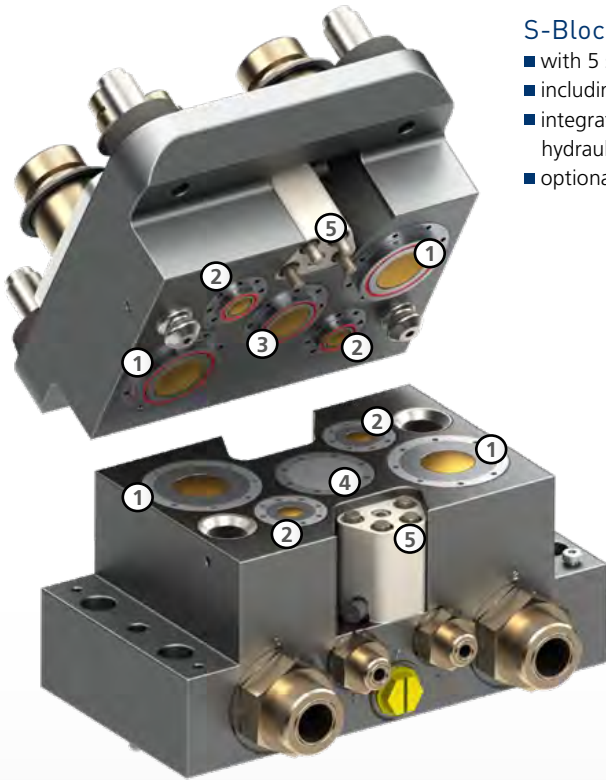


When locking the quick coupler with the adapter, the valves are opened automatically. The extremely short stroke of 0 - 4.8 mm allows full oil flow immediately. The quickcoupler is always locked safely and backlash-free thanks to the permanent application of pressure. In addition, the locking status is monitored via the standard LSC assistance system (page 6).

SQ - Valve blocks

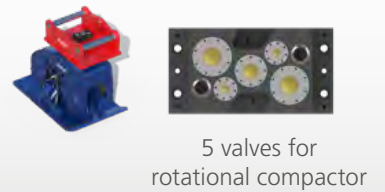
S-Block: Valve block in the quickcoupler

- with 5 symmetrically arranged short-stroke valves
- including leakage oil line
- integrated hydraulic tensioning device for firm hydraulic connections
- optionally with power feed-through



- 1) Working circuit valves
- 2) Grab rotation circuit valves
- 3) Oil leakage valve
- 4) Valve dummy
- 5) Optional power feed-through

Valve-configurations A-Block

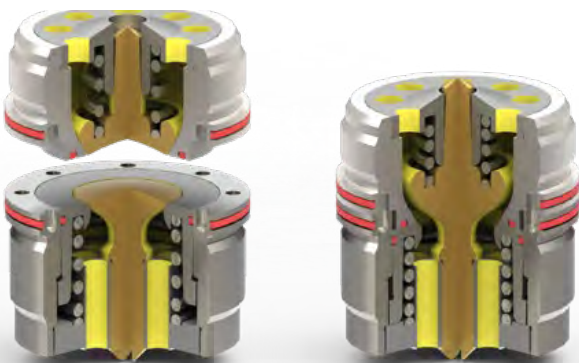


A-Block: Valve block in the attachment

- Number of valves matched to the respective attachment
- Unused valve positions are given a so-called dummy insert
- Short stroke valves are flush with the block surface - > very easy to maintain

Lehnhoff short stroke valves

- connect attachments to working hydraulics safely and leak-free
- optimally designed for excavator and attachments with maximum oil flow
- minimum dynamic pressure > low heating > less fuel consumption > higher efficiency
- easy to clean and service



Valve: Hydraulic circuit interrupted

Valve: Hydraulic circuit closed

Lehnhoff short stroke valves

			SQ 60	SQ 70	SQ 80
Type	Size	Flow rate (l/min)	Number of valves	Number of valves	Number of valves
KV 1	> DN12 1/2"	110	3	2	2
KV 2	> DN16 5/8"	160	-	-	-
KV 3	> DN20 3/4"	240	2	1	1
KV 4	> DN25 1"	550	-	2	2

SQ-Adapters - suitable for attachments of all types and brands

No matter which attachment of which brand you want to connect to your excavator: Lehnhoff offers adapted SQ adapters for all attachments. Thanks to the defined S standard, all SQ adaptations of a class fit all quickcouplers that use the S standard.*

Adapter frame for e.g. bucket conversion



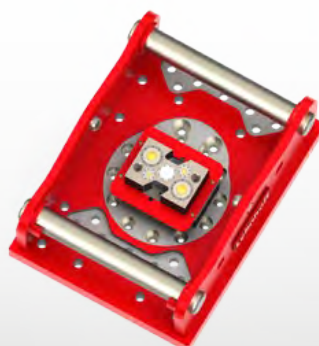
Screw adapter with valve block and hole pattern suitable for e.g. hydraulic hammer / sorting grab / shear etc.



Grab adapter for hanging grab with valve block and cardan joint suitable for the respective type



Screw adapter with valve block and multi-hole pattern, suitable for the most common types of attachments -> available immediately!



* exception: hydraulic adaptations with different valve systems

LSC safety assistance system

Full control at all times of all operating states of the quickcoupler from the driver's cab. Faulty locking of the quickcoupler is immediately detected and displayed. The driver can react immediately.

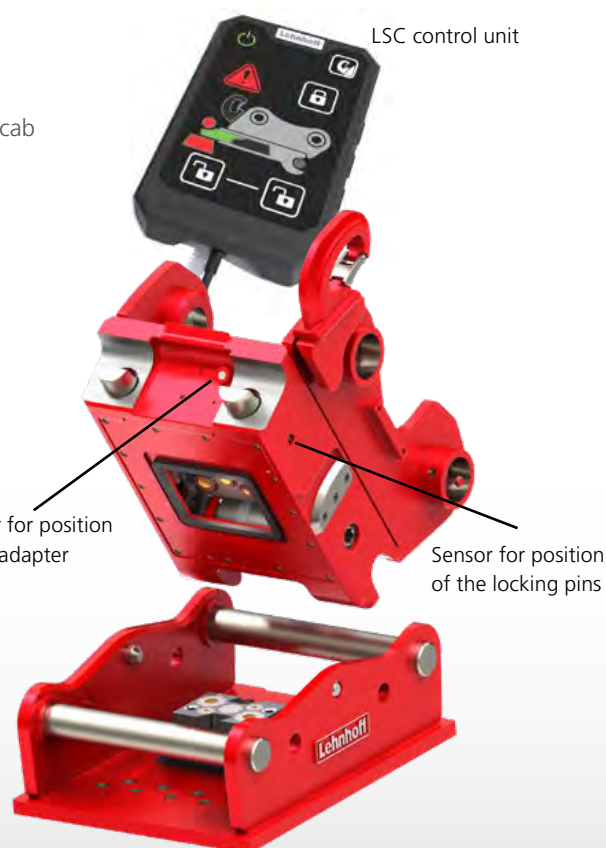
- Permanent monitoring of the operating condition via integrated sensors
- Illuminated optical display and acoustic signals
- Control of the operating states via operating and display unit in driver's cab
- Safe two-finger operation of the unlocking function
- Standard with all new SQ and Variolock quickcoupler systems



Quickcoupler locked correctly



Quickcoupler not locked correctly



Lehnhoff SQH: The hydraulic quickcoupler for the start into the S-standard

The Lehnhoff SQH quickcoupler is the version of the fully hydraulic SQ coupler reduced by the valve technology. SQH offers the easy entry into the S-Standard - of course with all the advantages of the symmetrical design, such as the compact, robust housing or the reverse mode feature (180 ° rotation) for all kinds of buckets.



- SQH 60 / SQH 70 / SQH 80 for excavators from 8t to 43t
- Hydraulically open and close safely from the cabin
- LSC-safety system included
- Emergency release included
- Optional with one or two load hooks

Technical Data: Lehnhoff SQ



Fully hydraulic quickcoupler SQ

	SQ 60	SQH 60	SQ 70	SQH 70	SQ 80	SQH 80
Excavator*	8 - 18 t		15 - 28 t		25 - 43 t	
Coupling shaft Ø [mm]	60	60	70	70	80	80
Distance of axes [mm]	480	480	600	600	670	670
Width [mm]	338	338	448	448	588	588
Weight** ca. [kg]	170	170	280	280	430	430
Operating pressure locking [bar]	50	50	180	180	50	50
Operating pressure unlocking [bar]	210	210	280	280	210	210
Valve configuration	3x KV1 2x KV3	-	2x KV1 2x KV4 1x KV3	-	2x KV1 2x KV4 1x KV3	-

* coarse classification. Suspension and maximal breakout force of the excavator must be taken into account

** depending on excavator suspension



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