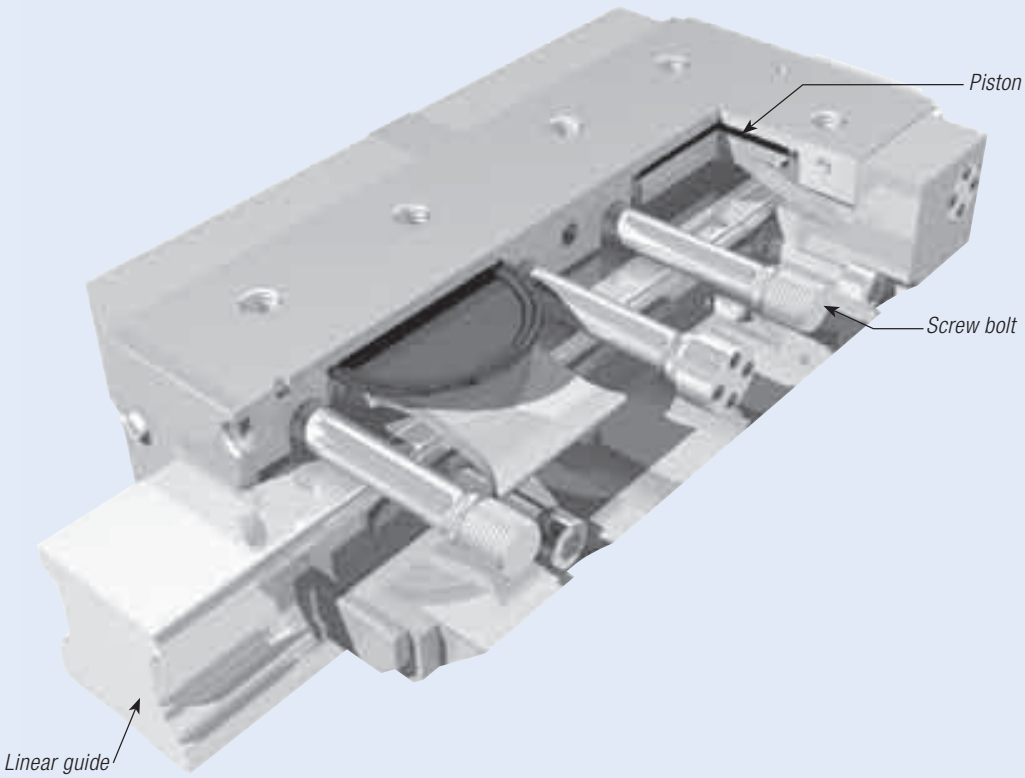
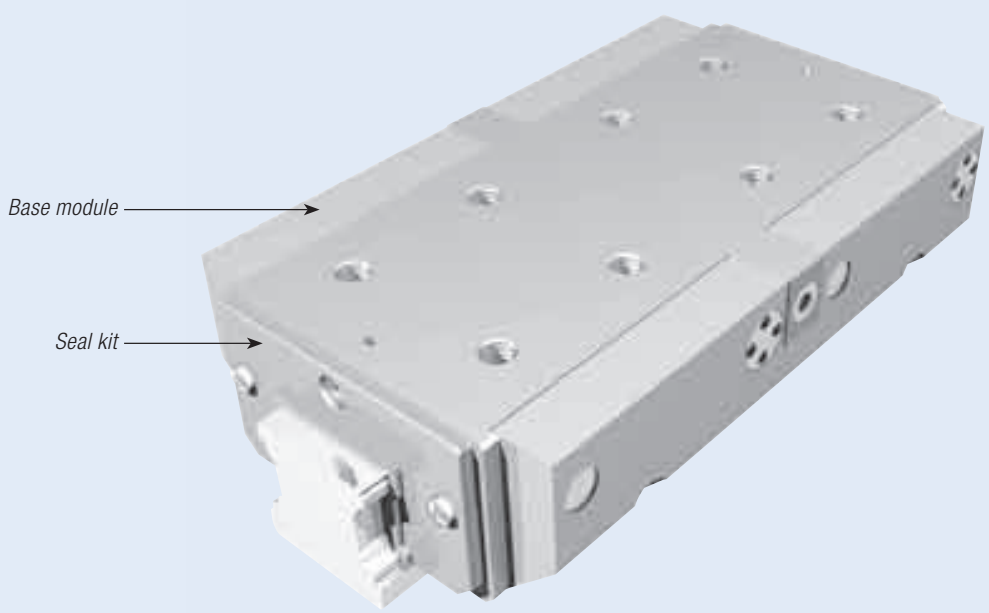


Hydraulic heavy load brake:
The Braking and Clamping Element with spring-loaded energy storage **KBHS.**

The KBHS series is a hydraulically operated heavy load brake featuring spring-loaded energy storage.
This function is based on the toggle lever principle. Pre-tensioned stress bolts provide holding force in case of pressure drop. Here the large-surface contact sections, which are equipped with a special brake lining, are pressed directly onto the free surfaces of the section rail.
At a hydraulic opening pressure of 150 **bar a holding power of up** to 40,000 **N is achieved. The KBHS series features a compact design** and is suitable from sizes 35 to 125.
The KBHS series is designed for braking and clamping on linear guides. Because of the material combination of the linear guide/ contact section, the linear guide won't be damaged by the contact section. In order to prevent damage from chips between the contact section and linear guide, the elements are fitted with original seals from the respective linear guide manufacturer and longitudinal seals as accessories. In order to guarantee the lifetime of the seals, follow the corresponding instructions from the respective linear guide manufacturer.
Details on the length of the brake path to be expected can be obtained from our technical advisors. The computations are based on serial tests and our industrial experience.

KBHS Design



Special characteristics:
- Special friction coating for braking
- Super-heavy load type
- Solid and rigid outer casing
- Compact design
- Integrated positive fit contact sections for maximum axial rigidity
- Exact positioning
- Opening pressure 150 **bar, hydraulic**
- Holding power up to 40,000 **N**
- Closed without pressure

Application scenarios for KBHS:
- Machine table clamping of heavy cutting work centres
- Clamping and braking of heavy handling systems
- Braking in emergency OFF situations
- Clamping in case of pressure drop

Connection options:
The KBHS series has a hydraulic supply port on both sides.

KBHS

Rail manufacturer	Type of rail	Size	Type of carriage	Item number	Measure table [page 94]
THK The Mark of Linear Motion	HSR	35	HSR..A, HSR..LA, HSR..B, HSR..LB, HSR..CA, HSR..HA, HSR..CB, HSR..HB	KBHS 3501 AS1A	1
		45	HSR..A, HSR..LA, HSR..B, HSR..LB, HSR..CA, HSR..HA, HSR..CB, HSR..HB	KBHS 4501 AS1A	2
		55	HSR..A, HSR..LA, HSR..B, HSR..LB, HSR..CA, HSR..HA, HSR..CB, HSR..HB	✆	
		65	HSR..A, HSR..LA, HSR..B, HSR..LB, HSR..CA, HSR..HA, HSR..CB, HSR..HB	KBHS 6501 AS1A	3
	NR/NRS	35	NR / NRS..A, NR / NRS..LA, NR / NRS..B, NR / NRS..LB	✆	
		45	NR / NRS..A, NR / NRS..LA, NR / NRS..B, NR / NRS..LB	✆	
		55	NR / NRS..A, NR / NRS..LA, NR / NRS..B, NR / NRS..LB	✆	
		65	NR / NRS..A, NR / NRS..LA, NR / NRS..B, NR / NRS..LB	✆	
	SHS	35	SHS..C, SHS..LC	KBHS 3501 CS1A	1
		45	SHS..C, SHS..LC	KBHS 4501 CS1A	2
		55	SHS..C, SHS..LC	✆	
		65	SHS..C, SHS..LC	KBHS 6501 CS1A	3
	SRG	35	SRG..C, SRG..LC	KBHS 3501 ES1A	1
		45	SRG..C, SRG..LC	KBHS 4501 ES1A	2
		55	SRG..C, SRG..LC	✆	
		65	SRG..LC	KBHS 6501 ES1A	3
	SNR/SNS	35	SNR..C, SNR..LC, SNS..C, SNS..LC	✆	
		45	SNR..C, SNR..LC, SNS..C, SNS..LC	✆	
		55	SNR..C, SNR..LC, SNS..C, SNS..LC	✆	
		65	SNR..C, SNR..LC, SNS..C, SNS..LC	✆	
Rail manufacturer					
Rexroth Bosch Group	1605, 1607, 1645, 1647	35	1631, 1651, 1653, 1661, 1665	KBHS 3505 AS1A	1
		45	1651, 1653	KBHS 4505 AS1A	2
		55	1651, 1653	✆	
		65	1651, 1653	KBHS 6505 AS1A	3
	1805, 1807	35	1851, 1853	KBHS 3505 BS1A	1
		45	1851, 1853	KBHS 4505 BS1A	2
		55	1851, 1853	✆	
		65	1853	KBHS 6505 BS1A	3
Rail manufacturer					
SCHNEEBERGER	MR	35	MR..A, MR..B	KBHS 3503 AS1A	1
		45	MR..A, MR..B	KBHS 4503 AS1A	2
		55	MR..A, MR..B	x	
		65	MR..B	KBHS 6503 AS1A	3
Rail manufacturer					
IKO	LWH	35	LWH..B, LWH..M, LWHG, LWHT..B, LWHT..M, LWHTG	✆	
		45	LWH..B, LWH..M, LWHG, LWHT..B, LWHT..M, LWHTG	✆	
		55	LWH..B, LWHG, LWHT..B, LWHTG	✆	
		65	LWH..B, LWHG, LWHT..B, LWHTG	✆	
	LRX	35	LRXC, LRX, LRXG	KBHS 3510 BS1A	1
		45	LRXC, LRX, LRXG	KBHS 4510 BS1A	2
		55	LRXC, LRX, LRXG	✆	
		65	LRXC, LRX, LRXG	KBHS 6510 BS1A	3

x: Not feasible

See page 13 for part number explanation

Type of rail	Size	Type of carriage	Item number	Measure table [page 94]
TKSD (KUSE)	35	KWSE, KWSE..-L	KBHS 3502 AS1A	1
	45	KWSE, KWSE..-L	KBHS 4502 AS1A	2
	55	KWSE, KWSE..-L	✆	
TKVD (KUVE)	35	KWVE..-B, KWVE..-B-L, KWVE..-B-KT, KWVE..-B-KT-L, KWVE..-E, KWVE..-B-EC	KBHS 3502 BS1A	1
	45	KWVE..-B, KWVE..-B-L, KWVE..-B-KT, KWVE..-B-KT-L, KWVE..-E, KWVE..-B-EC	KBHS 4502 BS1A	2
	55	KWVE..-B, KWVE..-B-L, KWVE..-B-KT, KWVE..-B-KT-L	✆	
TSX -E (RUE)	35	RWU..-E, RWU..-E-L, RWU..-E-KT-L	KBHS 3502 DS1A	1
	45	RWU..-E, RWU..-E-L, RWU..-E-KT-L	KBHS 4502 DS1A	2
	55	RWU..-E, RWU..-E-L, RWU..-E-KT-L	✆	
	65	RWU..-E, RWU..-E-L	KBHS 6502 DS1A	3

Rail manufacturer

INA

LH	35	LAH..EMZ, LAH..GMZ	KBHS 3504 BS1A	1
	45	LAH..EMZ, LAH..GMZ	KBHS 4504 BS1A	2
	55	LAH..EMZ, LAH..GMZ	✆	
	65	LAH..EMZ, LAH..GMZ	KBHS 6504 BS1A	3
LS	35	LAS..KLZ, LAS.. FLZ, LAS..ELZ	KBHS 3504 AS1A	1
LY	35	LY..EL, LY..FL, LY.. GL, LY.. HL	✆	
	45	LY..EL, LY..FL, LY.. GL, LY.. HL	✆	
	55	LY..EL, LY..FL, LY.. GL, LY.. HL	✆	
	65	LY..EL, LY..FL, LY.. GL, LY.. HL	✆	
LA			x	
RA	35	RA..EM, RA..GM	KBHS 3504 FS1A	1
	45	RA..EM, RA..GM	KBHS 4504 FS1A	2
	55	RA..EM, RA..GM	✆	
	65	RA..EM, RA..GM	KBHS 6504 FS1A	3

Rail manufacturer

NSK

LGR..T **LGR..R**	35	LGW..CC, LGW..HC	✆	
	45	LGW..CC, LGW..HC	✆	
	55	LGW..CC, LGW..HC	✆	
	65	LGW..CC, LGW..HC	✆	
HGR..T **HGR..R**	35	HGW..CC, HGW..HC	KBHS 3512 ES1A	1
	45	HGW..CC, HGW..HC	KBHS 4512 ES1A	2
	55	HGW..CC, HGW..HC	✆	
	65	HGW..CC, HGW..HC	KBHS 6512 ES1A	3
RG..T	35	RGW..CC, RGW..HC	✆	
	45	RGW..CC, RGW..HC	✆	
	55	RGW..CC, RGW..HC	✆	

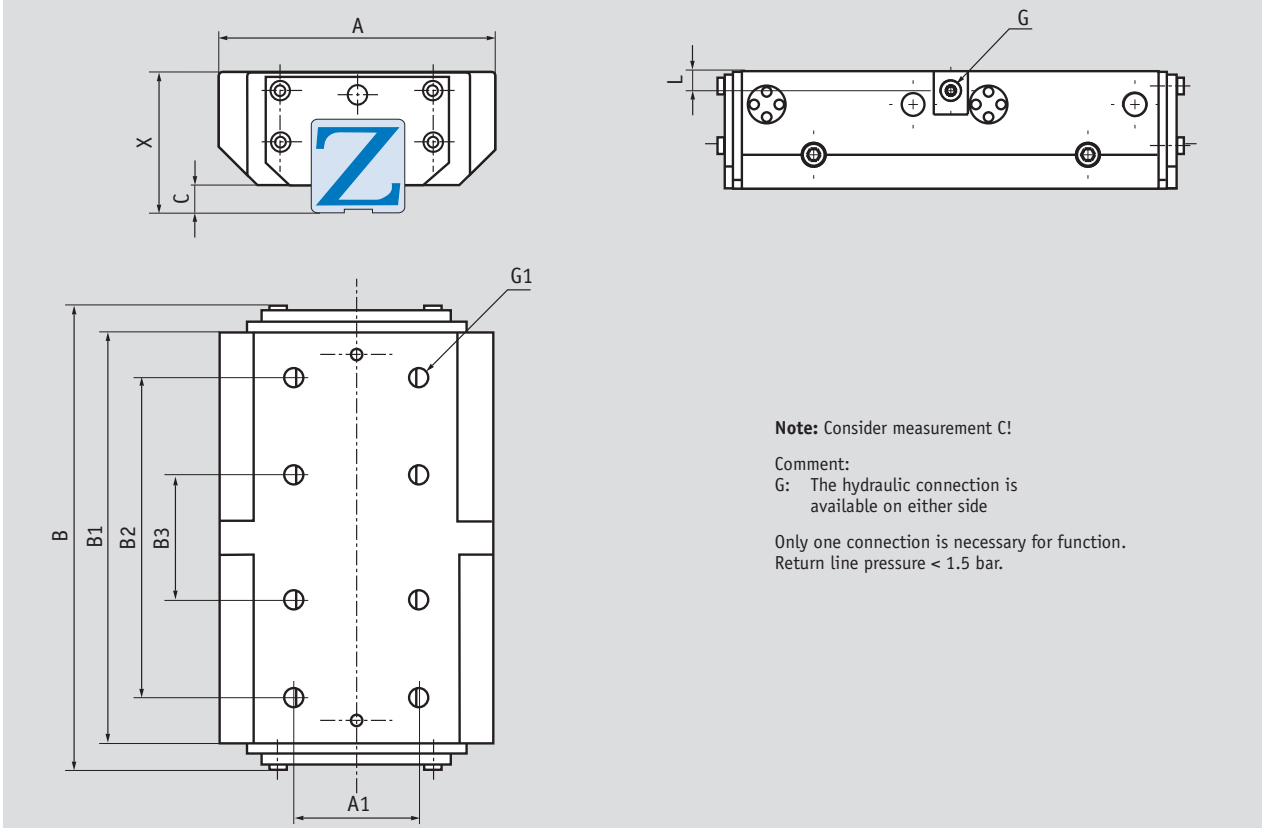
Rail manufacturer

HIWIN Lineartechnologie

x: Not feasible

See page 13 for part number explanation

KBHS



Note: Consider measurement C!

Comment:
G: The hydraulic connection is available on either side

Only one connection is necessary for function.
Return line pressure < 1.5 bar.

Measure table	Holding power [N] KBHS	max. operating pressure [bar]	A [mm]	A1 [mm]	B max. [mm]	B1 [mm]	B2 [mm]	B3 [mm]	C [mm]	X [mm]	G	G1	L [mm]
1	7.500	150	100	41	182	155	122	46	6	48	1/8“	M8/15	9
2	9.000	150	120	55	210	180	140	55	8	60	1/8“	M10/19,3	9
3	16.000	150	170	70	300	270	205	80	11,5	90	1/4“	M16/29,3	11