



Linear technology

Clamping and braking elements
+ for THK profile rail guides

THE KNOW-HOW FACTORY

THE KNOW-HOW FACTORY

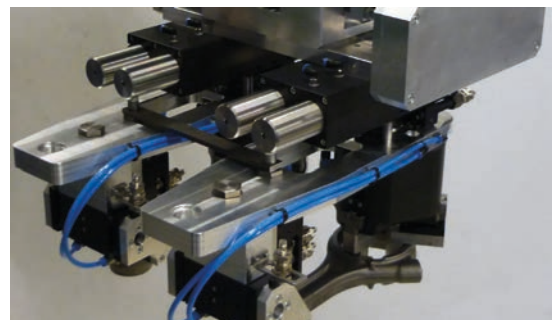
ZIMMER GROUP COMMITTED TO OUR CUSTOMERS

WE HAVE SUCCEEDED FOR YEARS BY OFFERING OUR CUSTOMERS INNOVATIVE AND INDIVIDUALIZED SOLUTIONS. ZIMMER HAS GROWN CONTINUOUSLY AND TODAY WE HAVE REACHED A NEW MILESTONE: THE ESTABLISHMENT OF THE KNOW-HOW FACTORY. IS THERE A SECRET TO OUR SUCCESS?

Foundation. Excellent products and services have always been the foundation of our company's growth. Zimmer is a source of ingenious solutions and important technical innovations. This is why customers with high expectations for technology frequently find their way to us. When things get tricky, Zimmer Group is in its best form.

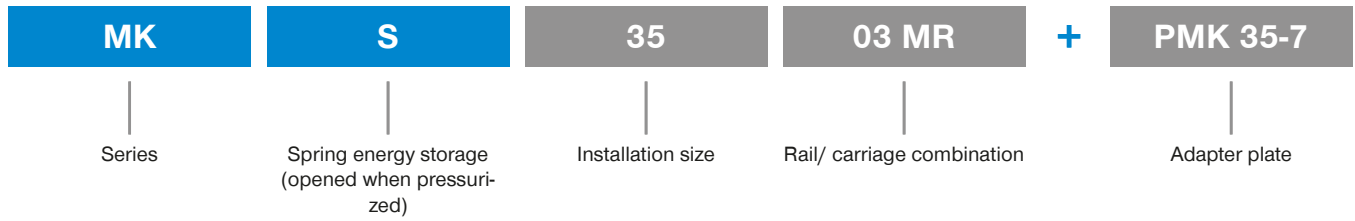
Style. We have an interdisciplinary approach to everything we do, resulting in refined process solutions in six technology fields. This applies not just to development but to production. Zimmer Group serves all industries and stands ready to resolve even the most unique and highly individualized problems. Worldwide.

Motivation. Customer orientation is perhaps the most important factor of our success. We are a service provider in the complete sense of the word. With Zimmer Group, our customers have a single, centralized contact for all of their needs. We approach each customer's situation with a high level of competence and a broad range of possible solutions.



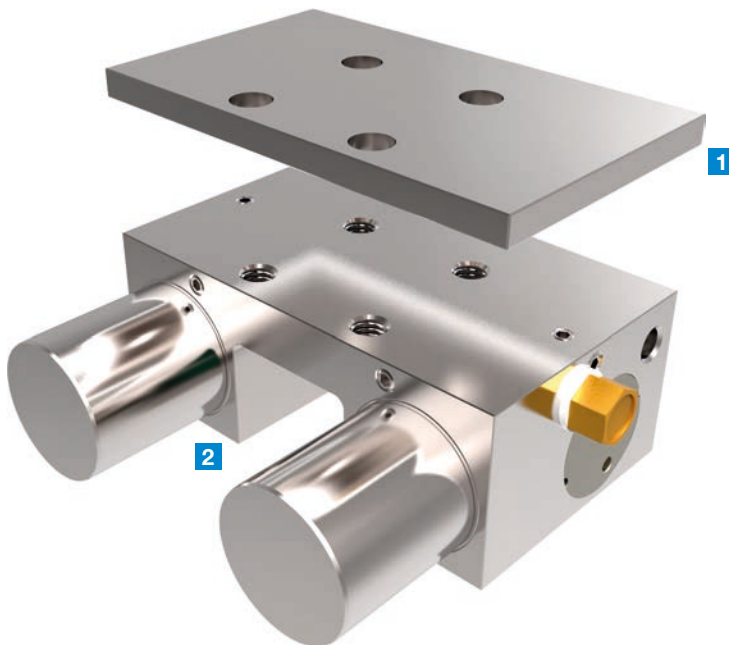
NUMERICAL CODE EXPLANATION

▶ NUMERICAL CODE OF OUR MKS SERIES (SHOWN AS EXAMPLE)



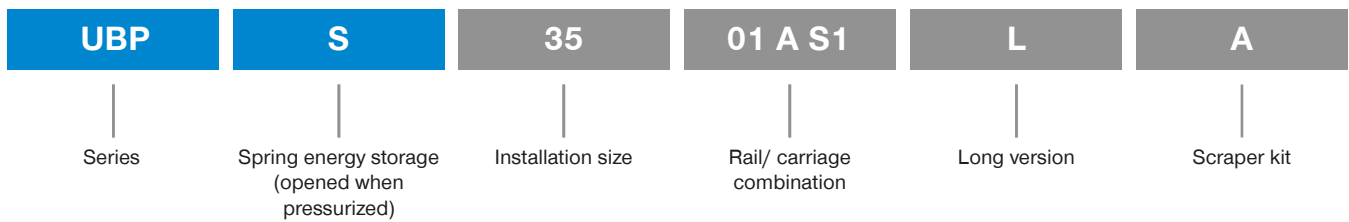
- ▶ The tables on the overview pages contain the order numbers of the elements and, when necessary, the order numbers of the associated adapter plate (accessory).
- ▶ If an adapter plate is required, please provide both order numbers.
- ▶ For dimensions and top view drawings, refer to the respective series.

Example MKS series



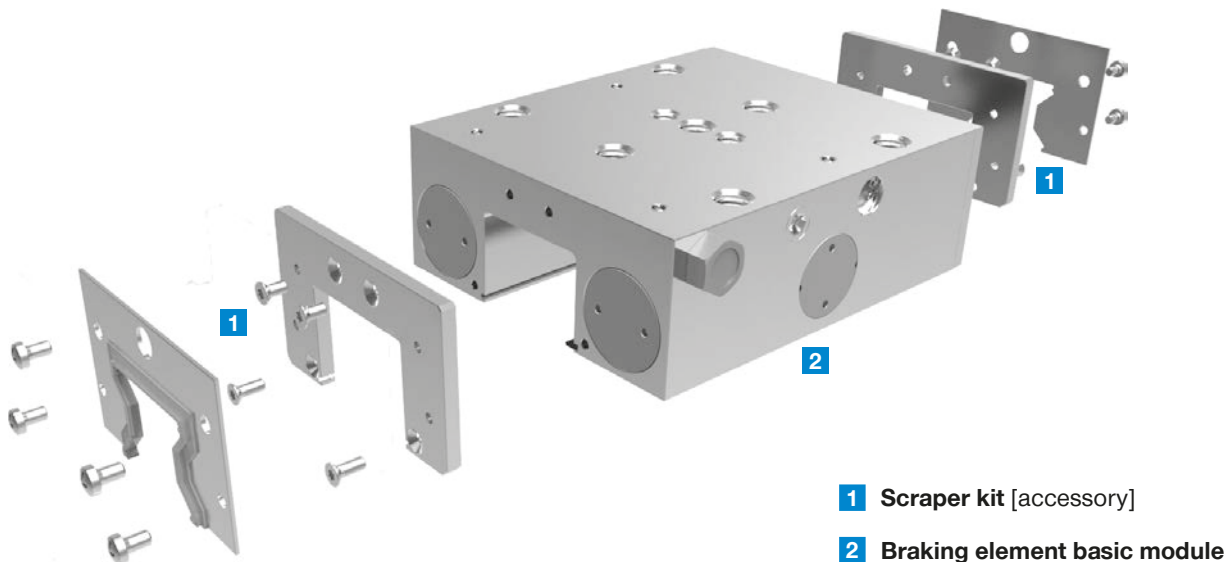
- 1** Adapter plate [Depending on the height of the guide block (dimension D), it may be necessary to order an adapter plate for height compensation.]
- 2** Clamping element basic module

► NUMERICAL CODE OF OUR UBPS SERIES (SHOWN AS EXAMPLE)



- The tables on the overview pages contain all necessary order numbers, with the exception of the wiper kit.
- If a wiper kit is required, please add the letter „A“ to the order number.
- Our KBHS and RBPS series are always equipped with a wiper!
- Our series MBPS, UBPS, KWH, KBH and LBHS are available with a wiper option!
- For dimensions and top view drawings, refer to the respective series.

Example UBPS series



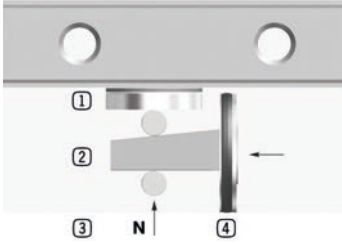
CLAMPING AND BRAKING ELEMENTS

TECHNICAL FUNDAMENTALS

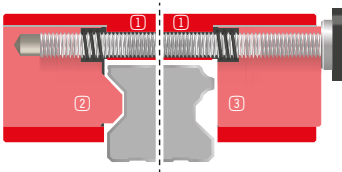
▶ CLAMPING, BRAKING, AREAS OF APPLICATION

Wedge slide gear

- ① Contact section
- ② Wedge slide gear
- ③ Resulting transverse movement
- ④ Piston



- ① floating bearing
- ② free surface (O arrangement)
- ③ free surface (X arrangement)

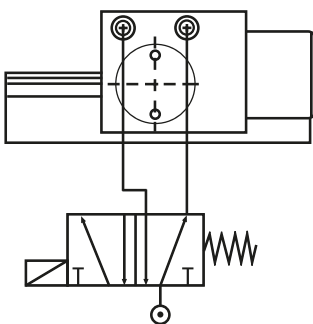


- ▶ The MK/MKS/MBPS/UBPS/LKP/LKPS/LBPS/MKR and MKRS series are constructed with two parallel (synchronized) running wedge-type gears, i.e. the stroke movement of the contact profiles is performed from both sides. Therefore (assuming the proper connection structure), the clamping process is not expected to produce relative movements.
- ▶ Series HK/MK/MKS/LKP/LKPS/miniHK/MCP/MCPS/KWH/KBH/LKE/HKR/MKR/MKRS/TPS and DKHS1000 are designed exclusively for static clamping processes.
- ▶ Series MBPS/UBPS/LBPS/LBHS and RBPS permit the use of corresponding contact profiles for dynamic use (braking) as a safety feature.
- ▶ Series HK/miniHK/MCP/MCPS/KWH/KBH/LKE and HKR have floating bearings, thereby eliminating pinching forces in the connection structure during the clamping process.
- ▶ The frictional connection between the clamping element and the linear guide is generated on the free surfaces of the guide rails, avoiding damage to the running surfaces of the ball guides and roller slides.

▶ PNEUMATIC CONNECTIONS

OPTIMIZED SUPPLY OF COMPRESSED AIR PROVIDES FOR RELIABLE FUNCTIONALITY

- ▶ Purified, oiled air shall be used for the pneumatic elements. Recommended filter size is 25 µm. The line diameter of the elements should be the largest permitted by the air connection. Smaller line diameters result in slower response and reaction times for the elements. Lines should be as short as possible; please observe the installation and operating instructions.
- ▶ All commercially available pneumatic valves are suitable. Inquire with the manufacturer for each valve's reaction time, especially when used as a brake or as fall protection.



- ▶ PLUS connection for higher holding forces
The holding force of elements MKS/ MCPS and UBPS can be increased with supplementary pressure for the spring energy storage and by installing a 5/2 (overflow free) or 5/3-way valve. In this case, the venting filter is replaced by a second pneumatic line.
- ▶ When used as a safety element, note that the higher holding force (PLUS connection) can be achieved only with additional charging with existing pneumatic pressure.

▶ HYDRAULIC CONNECTIONS

KWH
KBH
LBHS
DKHS1000

- ▶ The hydraulic clamping elements are filled at the factory with HLP 46 hydraulic oil. The hydraulic connection is established at both sides. Charging requires one connection. Special care must be exercised when venting the rigid and flexible hydraulic lines, since air inclusions may lead to damage to sealing elements. Please observe the instructions included with the product during installation and start-up.

▶ CONNECTION STRUCTURE, INSTALLATION OF THE CLAMPING ELEMENTS



PLEASE OBSERVE!

- ▶ In order to avoid negative effects like permanent rubbing at the linear guide, the connection structure must be stiff in its design, in accordance with its loads and requirements. If the clamping elements are askew, this may result in rubbing, wear and ultimately damage to the linear guide.

The default factory setting is adapted to the linear guide and may not be modified during installation. It is very important that you observe the installation instructions for the clamping and braking elements.

All spring-loaded elements are equipped with a transport safety device between the contact profiles. Remove the safety devices during installation by applying pressure to the element. Once pressure is removed, the transport safety device or the associated linear guide must have contact between the contact profiles!

The clamping elements do not perform any guide function. Therefore, it is not possible to exchange a guide block with a clamping element. The ideal position of the clamping element is between two guide blocks. When using multiple clamping elements, they should be distributed evenly on both guide rails in order to achieve maximum rigidity of the overall design.

Additional installation notices may be found at www.zimmer-group.com.

▶ LUBRICATION, SURFACE PROTECTION AND B10D VALUE

NOTE

- ▶ Lubrication is not necessary when using the mandated pressure medium.
- ▶ All housing parts of the clamping elements are nickel plated, giving them a certain amount of rust protection. Smaller parts made of aluminum are nickel plated or hard coated, depending on their requirements.
- ▶ The B10d value indicates the number of switching cycles until 10 % of the components have failed hazardously.

CLAMPING AND BRAKING ELEMENTS

BRAKING DISTANCE CALCULATION

▶ THEORETICAL BRAKING DISTANCE CALCULATION

VALUE

A (number of braking elements)	1
F (holding force of the braking element)	3 100 N
t _R (reaction time)	0,06 s
t _A (response time)	0,01 s
m (mass)	50 kg
v ₀ (initial speed)	2 m/s
μ _G (kinetic friction)	0,06
μ _R (static friction)	0,1
g (weight force)	9,81 m/s ²

▶ Example: Two guide blocks and one braking element UBPS (size 45)

The values for μ_G and μ_R are based on test series and on years of industry experience. Nonetheless, divergent ambient conditions can lead to different results. Values t_R and t_A are based on measured test values.

▶ STOPPING DISTANCE (HORIZONTAL INSTALLATION)

FORMULAS

▶ Stopping distance (horizontal installation)

The stopping distance is the theoretical distance required to bring a known mass with a defined speed to a complete stop. During braking, kinetic energy is converted to friction energy.

The braking distance is additionally extended by the distance that the entire system requires until the braking process is initiated. Short hose lengths, rapid valves and clean rails shorten the stopping distance.

▶ Energy formulas:

$$W_{\text{Kin}} = \frac{1}{2} m \times v_0^2 \qquad W_{\text{Fric}} = F \times A \times \frac{\mu_G}{\mu_H} \times S_B \qquad W_{\text{Kin}} = W_{\text{Fric}}$$

▶ Braking distance S_B:

$$S_B = \frac{m \times v_0^2}{2 \times F \times A \times \frac{\mu_G}{\mu_H}} = \frac{50 \text{ kg} \times (2 \frac{\text{m}}{\text{s}})^2}{2 \times 3.100 \text{ N} \times 1 \times \frac{0,06}{0,1}} = 0,054 \text{ m}$$

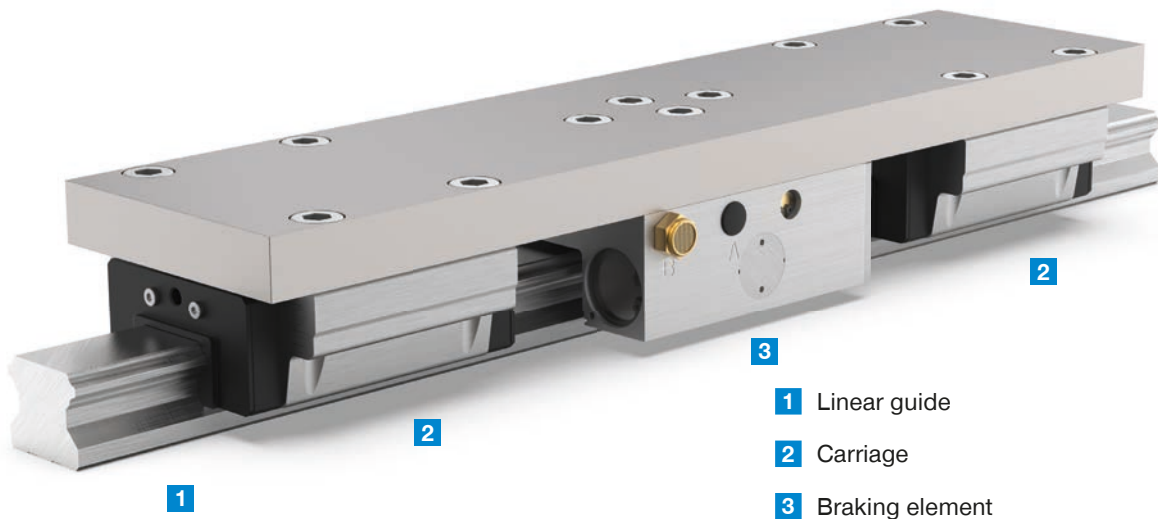
▶ Reaction distance and response distance S_R:

$$S_R = v_0 \times (t_R + t_A) = 2 \frac{\text{m}}{\text{s}} \times (0,06 \text{ s} + 0,01 \text{ s}) = 0,14 \text{ m}$$

▶ Stopping distance S_H:

$$S_H = S_B + S_R = 0,054 \text{ m} + 0,14 \text{ m} = 0,194 \text{ m}$$

► DESIGN



1

2

3

1 Linear guide

2 Carriage

3 Braking element

- The relevant mechanical engineering directives shall be observed when designing the axle, including brakes. We will be happy to provide design assistance.

► STOPPING DISTANCE (VERTICAL INSTALLATION)

FORMULAS

► Stopping distance (vertical installation)

With vertical installation, the system is accelerated by gravity until the braking element triggers and the braking process begins.

► Speed when braking begins V_{Brake} :

$$V_{\text{Brake}} = v_0 + g \times (t_R + t_A) = 2 \frac{\text{m}}{\text{s}} + 9,81 \frac{\text{m}}{\text{s}^2} \times (0,06\text{s} + 0,01\text{s}) = 2,69 \frac{\text{m}}{\text{s}}$$

► Braking distance S_B :

$$S_B = \frac{m \times v_{\text{Brake}}^2}{2 \times ((F \times A \times \frac{\mu_G}{\mu_H}) - m \times g)} = \frac{50\text{kg} \times (2,69 \frac{\text{m}}{\text{s}})^2}{2 \times ((3,100\text{N} \times 1 \times \frac{0,06}{0,1}) - 50\text{kg} \times 9,81 \frac{\text{m}}{\text{s}^2})} = 0,132\text{ m}$$



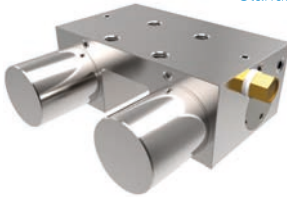



► Reaction distance and response distance S_R :

$$\begin{aligned} S_R &= v_0 \times (t_R + t_A) + \frac{1}{2} \times g \times (t_R + t_A)^2 \\ &= 2 \frac{\text{m}}{\text{s}} \times (0,06\text{s} + 0,01\text{s}) + \frac{1}{2} \times 9,81 \frac{\text{m}}{\text{s}^2} \times (0,06\text{s} + 0,01\text{s})^2 = 0,164 \end{aligned}$$

► Stopping distance S_H :

$$S_H = S_B + S_R = 0,132\text{m} + 0,164\text{m} = 0,296\text{ m}$$

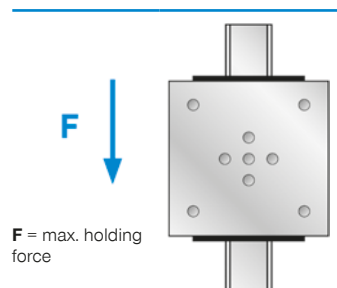
CLAMPING AND BRAKING ELEMENTS IN OVERVIEW

PROFILE RAIL GUIDES			
MANUAL	PNEUMATIC		
CLAMPING	CLAMPING		CLAMPING AND BRAKING
N	NO	NC	NC
HK Holding force up to 2000 N 	MK Holding force up to 2.250 N 	MKS Holding force up to 3.300 N 	MBPS Holding force up to 4.700 N 
Standard	Standard	Standard	Standard
			UBPS Holding force up to 7.700(9.200) N 
			Standard
	LKP Holding force up to 2.500 N 	LKPS Holding force up to 1.900 N 	LBPS Holding force up to 1.900 N 
	Narrow	Narrow	Narrow
MINIHK Holding force up to 300 N 	MCP Holding force up to 550 N 	MCPS Holding force up to 700 N 	
Miniature	Miniature	Miniature	





Holding force

The holding force is the maximum force that can be generated in the axial direction.







The specified holding forces are tested on every clamping and braking element before delivery using a slightly lubricated rail (ISO VG 68). Using other oil or lubricating substances can influence the coefficient of friction, which can cause a loss of holding force in individual cases.



PROFILE RAIL GUIDES

HYDRAULIC		ELECTRICAL	
CLAMPING	CLAMPING AND BRAKING	CLAMPING	
NO	NO	NC	N
KWH Holding force up to 46.000 N Standard 	KBH Holding force up to 46.000 N Standard 	LBHS Holding force up to 15.000 N Narrow 	LKE Holding force up to 1.800 N Standard 

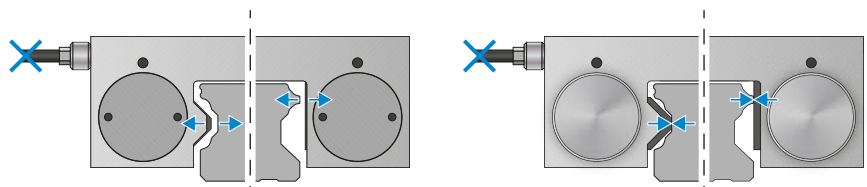
CIRCULATOR AND SHAFT GUIDES

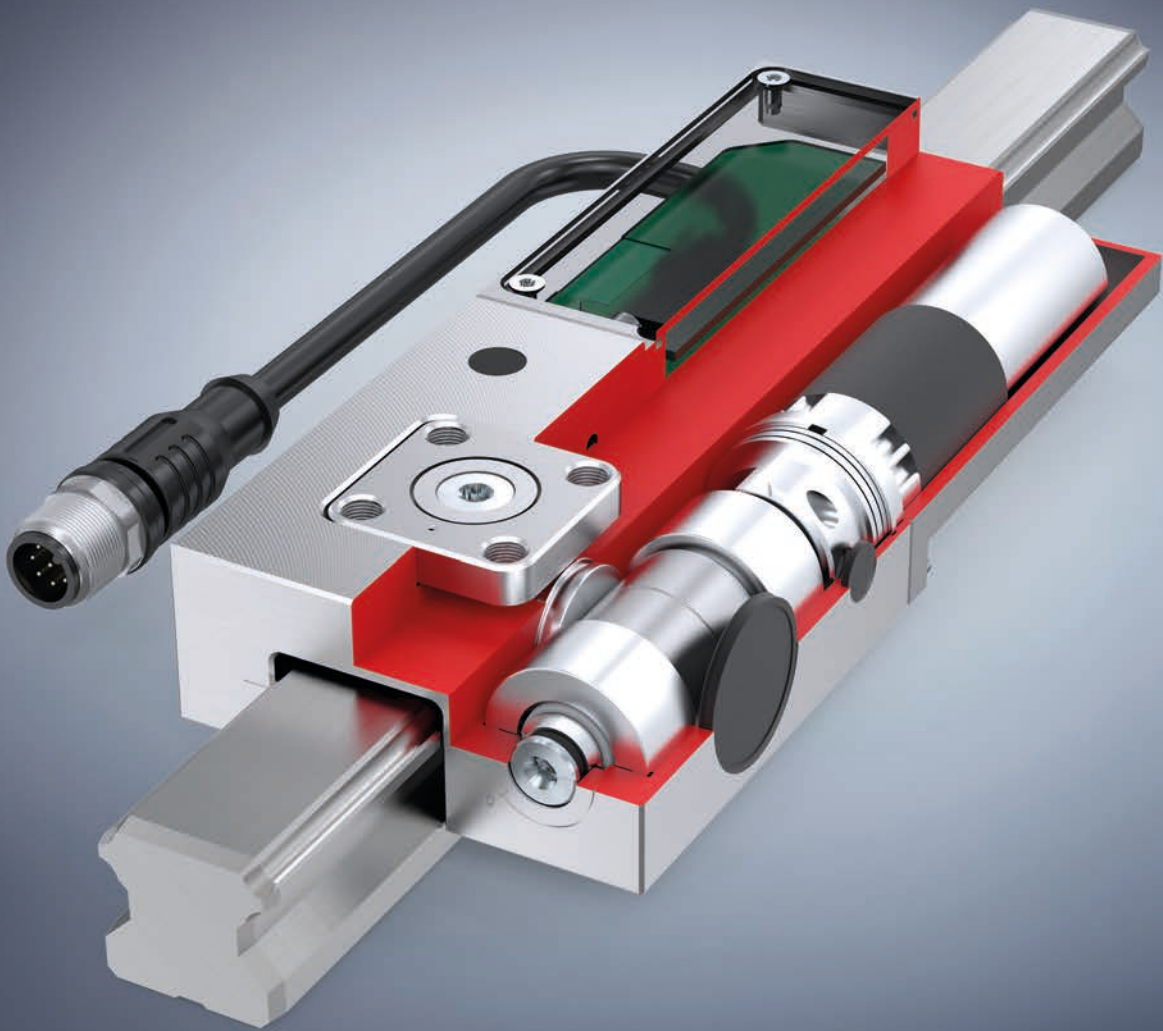
MANUAL	PNEUMATIC		
CLAMPING	CLAMPING	CLAMPING	CLAMPING AND BRAKING
N	NO	NC	NC
HKR Holding force up to 2000 N Standard 	MKR Holding force up to 1.850 N Standard 	MKRS Holding force up to 1.650 N Standard 	RBPS Holding force up to 52.000 N Standard 
		TPS Holding torque static up to 770 Nm Rotary 	DKHS1000 Holding torque static up to 4.200 Nm Rotary 
			HYDRAULIC CLAMPING NC

N (bistable):
remains in current position

NO (Normally Open):
open without pressure

NC (Normally Closed):
closed without pressure





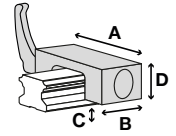
RAIL TYPES IN OVERVIEW

GSR	14
HCR	15
HRW	16
HSR	17
HSV	24
NR	27
NRS	30
RSR	33
RSR-W	34
SHS	35
SHW	41
SR	43
SRG	46
SRN	51
SRS	53
SRS-W	54
SRW	55
SSR	56
SVR	58
SVS	61
HDR	on request*

*You may find the latest available series via [zimmer-group.com/en/plt](https://www.zimmer-group.com/en/plt)

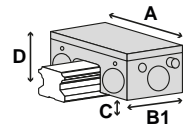
► RAIL TYPE: GSR

► SERIES HK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



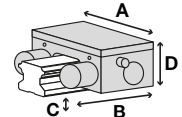
Rail size	Carriage type	Series HK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	T, V	HK1501G		1200	32	25	7	20
20	T, V	HK2001G		1200	43	24	8	24
25	T, V	HK2501G		1200	47	30	11	30
30	T	HK3001G		2000	57	29	12	33
35	T	HK3501G		2000	68	39	14	38

► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series MK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
20	T, V	MK2001G		650	60	59	4.5	24
25	T, V	MK2501G		1200	75	54	5	30
30	T	MK3001G		1750	90	59	5	33
35	T	MK3501G		1750	96	54	8.5	38

► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



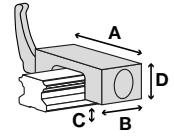
Rail size	Carriage type	Series MKS					
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	D [mm]
20	T, V	MKS2001G		400	60	68	24
25	T, V	MKS2501G		750	75	65	30
30	T	MKS3001G		1050	90	78	33
35	T	MKS3501G		1050	96	73	38

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

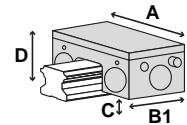
► RAIL TYPE: HCR

► SERIES HK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



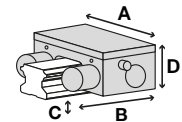
Rail size	Carriage type	Series HK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	HCR15A+60/150R, HCR15A+60/300R, HCR15A+60/400R	HK1501-150		1200	47	24	6.5	24
25	HCR25A+60/1000R, HCR25A+60/1600R, HCR25A+60/500R, HCR25A+60/750R	HK2501A		1200	70	30	13	36
35	HCR35A+60/1000R, HCR35A+60/1300R, HCR35A+60/600R, HCR35A+60/800R	HK3501-1000		2000	100	39	16	48
45	HCR45A+60/1000R, HCR45A+60/1200R, HCR45A+60/1600R, HCR45A+60/800R	HK4501A		2000	120	44	16	60

► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series MK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
15	HCR15A+60/150R, HCR15A+60/300R, HCR15A+60/400R	MK1501-300		650	64	39	2.5	24
25	HCR25A+60/1000R, HCR25A+60/500R, HCR25A+60/750R	MK2501-1000		1200	84	35	8	36
35	HCR35A+60/1000R, HCR35A+60/1300R, HCR35A+60/600R, HCR35A+60/800R	MK3501-1000		2000	114	39	11.5	48
45	HCR45A+60/1000R, HCR45A+60/1200R, HCR45A+60/1600R, HCR45A+60/800R	MK4501-1000		2250	130	49	16.5	60
65	HCR65A+60/1000R, HCR65A+60/1500R, HCR65A+30/3000R, HCR65A+45/2000R, HCR65A+45/2500R	MK6501-1000		2250	150	49	26	90

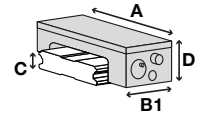
► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series MKS					
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	D [mm]
15	HCR15A+60/150R, HCR15A+60/300R, HCR15A+60/400R	MKS1501-300		400	64	58	24
25	HCR25A+60/1000R, HCR25A+60/500R, HCR25A+60/750R	MKS2501-1000		750	84	56	36
35	HCR35A+60/1000R, HCR35A+60/1300R, HCR35A+60/600R, HCR35A+60/800R	MKS3501-1000		750	114	67	48
45	HCR45A+60/1000R, HCR45A+60/1200R, HCR45A+60/1600R, HCR45A+60/800R	MKS4501-1000		1450	130	82	60
65	HCR65A+60/1000R, HCR65A+60/1500R, HCR65A+30/3000R, HCR65A+45/2000R, HCR65A+45/2500R	MKS6501-1000		1450	150	82	90

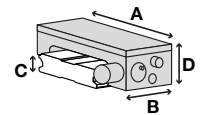
► RAIL TYPE: HRW

► SERIES MCP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



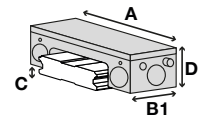
Rail size	Carriage type	Series MCP						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
14	LRM	MCP1200MW		280	50	34	3.95	14
17	CA, CAM, CR, CRM	MCP1701B		280	68	34	4.95	17

► SERIES MCPS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



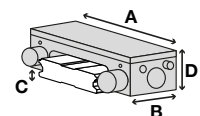
Rail size	Carriage type	Series MCPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
14	LRM	MCPS1200MW		250	50	52.5	3.95	14
17	CA, CAM, CR, CRM	MCPS1701B		250	68	52.5	4.95	17

► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series MK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
17	CA, CAM, CR, CRM	MK1701B		350	70	48	1.2	17
21	CA, CAM, CR, CRM	MK2101B		650	77	49	2	21
27	CA, CAM, CR, CRM	MK2701B		1000	88	53	4	27
35	CA, CAM, CR, CRM	MK3501B		1200	121	36	5	35
50	CA, CR	MK5001B		2000	156	39	4.5	50

► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



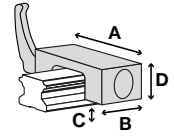
Rail size	Carriage type	Series MKS					
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	D [mm]
17	CA, CAM, CR, CRM	MKS1701B		250	70	64	17
21	CA, CAM, CR, CRM	MKS2101B		400	77	58	21
27	CA, CAM, CR, CRM	MKS2701B		600	88	65	27
35	CA, CAM, CR, CRM	MKS3501B		750	121	57	35
50	CA, CR	MKS5001B		1250	156	67	50

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

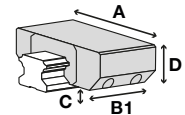
► RAIL TYPE: HSR

► SERIES HK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



Rail size	Carriage type	Series HK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	A, AM, B, BM, C	HK1501A		1200	47	24	6.5	24
15	R, RM, YR, YRM	HK1501A	PHK15-4	1200	47	24	6.5	28
20	A, AM, B, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM, LR, LRM, M, R, RM, YR, YRM	HK2001A		1200	60	24	10	30
25	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	HK2501A		1200	70	30	13	36
25	LR, LRM, R, RM, YR, YRM	HK2501A	PHK25-4	1200	70	30	13	40
30	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	HK3001A		2000	90	39	10	42
30	LR, LRM, R, RM, YR, YRM	HK3001A	PHK30-3	2000	90	39	10	45
35	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	HK3501A		2000	100	39	11	48
35	LR, LRM, R, RM, YR, YRM	HK3501A	PMK35-7	2000	100	39	11	55
45	A, B, CA, CB, HA, HB, LA, LB	HK4501A		2000	120	44	16	60
45	LR, R, YR	HK4501A	PHK45-10	2000	120	44	16	70
55	A, B, CA, CB, HA, HB, LA, LB	HK5501A		2000	140	49	19	70
55	LR, R, YR	HK5501A	PHK55-10	2000	140	49	19	80
65	A, B, CA, CB, HA, HB, LA, LB, LR, R, YR	HK6501A		2000	160	64	24	90

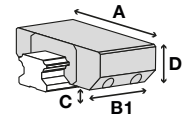
► SERIES KBH CLAMPING AND BRAKING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series KBH						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
25	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	KBH2501AS1		2200	70	100	6.5	36
25	LR, LRM, R, RM, YR, YRM	KBH2501AS1	PKW25-4	2200	70	100	6.5	36
30	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	KBH3001AS1		3000	90	111.5	7	42
30	LR, LRM, R, RM, YR, YRM	KBH3001AS1	PKW30-3	3000	90	111.5	7	42
35	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	KBH3501AS1		5700	100	128.5	8	48
35	LR, LRM, R, RM, YR, YRM	KBH3501AS1	PKW35-7	5700	100	128.5	8	48
45	A, B, CA, CB, HA, HB, LA, LB	KBH4501AS1		9900	120	163	10	60
45	LR, R, YR	KBH4501AS1	PKW45-10	9900	120	163	10	60
55	A, B, CA, CB, HA, HB, LA, LB	KBH5501AS1		13700	140	192	13	70
55	LR, R, YR	KBH5501AS1	PKW55-10	13700	140	192	13	70
65	A, B, CA, CB, HA, HB, LA, LB, LR, R, YR	KBH6501AS1		22700	170	235	14	90
85	A, B, CA, CB, HA, HB, LA, LB, LR, R	KBH8501AS1		27400	215	192	16	110
100	HA, HB, HR	KBH10001AS1		34000	250	208	15	120

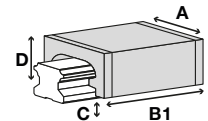
► RAIL TYPE: HSR

► SERIES KWH CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series KWH						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
25	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	KWH2501AS1		2200	70	92	6.5	36
25	LR, LRM, R, RM, YR, YRM	KWH2501AS1	PKW25-4	2200	70	92	6.5	36
30	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	KWH3001AS1		3000	90	103.5	7	42
30	LR, LRM, R, RM, YR, YRM	KWH3001AS1	PKW30-3	3000	90	103.5	7	42
35	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	KWH3501AS1		5700	100	120.5	8	48
35	LR, LRM, R, RM, YR, YRM	KWH3501AS1	PKW35-7	5700	100	120.5	8	48
45	A, B, CA, CB, HA, HB, LA, LB	KWH4501AS1		9900	120	155	10	60
45	LR, R, YR	KWH4501AS1	PKW45-10	9900	120	155	10	60
55	A, B, CA, CB, HA, HB, LA, LB	KWH5501AS1		13700	140	184	13	70
55	LR, R, YR	KWH5501AS1	PKW55-10	13700	140	184	13	70
65	A, B, CA, CB, HA, HB, LA, LB, LR, R, YR	KWH6501AS1		22700	170	227	14	90

► SERIES LBHS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



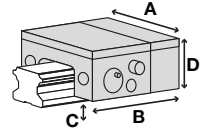
Rail size	Carriage type	Series LBHS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
20	A, AM, B, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM, LRM, M, R, RM, YR, YRM	LBHS2001AS2		1300	43.8	110	5.5	30
25	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	LBHS2501AS2		2000	47.6	130	7.5	36
25	LR, LRM, R, RM, YR, YRM	LBHS2501AS2	PLBH25-4	2000	47.6	130	7.5	40
30	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	LBHS3001AS2		3500	59.6	180	7	42
30	LR, LRM, R, RM, YR, YRM	LBHS3001AS2	PLBH30-3	3500	59.6	180	7	45
35	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	LBHS3501AS2		5000	69.5	190	7.5	48
35	LR, LRM, R, RM, YR, YRM	LBHS3501AS2	PLBH35-7	5000	69.5	190	7.5	55
45	A, B, CA, CB, HA, HB, LA, LB	LBHS4501AS2		7000	85.6	210	10	60
45	LR, R, YR	LBHS4501AS2	PLBH45-10	7000	85.6	210	10	70
55	A, B, CA, CB, HA, HB, LA, LB	LBHS5501AS2		11500	99.5	256	13	70
55	LR, R, YR	LBHS5501AS2	PLBH55-10	11500	99.5	256	13	80
65	A, B, CA, CB, HA, HB, LA, LB, LR, R, YR	LBHS6501AS2		15000	125.5	276	11.5	90

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

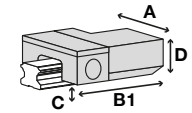
► RAIL TYPE: HSR

► SERIES LBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series LBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	A, AM, B, BM, C	LBPS1501AS2-A		400	34	76	3.3	24
15	R, RM, YR, YRM	LBPS1501AS2-A	PLK15-4	400	34	76	3.3	28
20	A, AM, B, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM, LR, R, RM, YR, YRM, BM, LLRM	LBPS2001AS2-A		600	44	81	5.5	30
25	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	LBPS2501AS2-A		750	48	86	7.5	36
25	LR, LRM, R, RM, YR, YRM	LBPS2501AS2-A	PLK25-4	750	48	86	7.5	40
30	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	LBPS3001AS2-A		1200	60	109.5	7	42
30	LR, LRM, R, RM, YR, YRM	LBPS3001AS2-A	PLK30-3	1200	60	109.5	7	45
35	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	LBPS3501AS2-A		1900	70	124.5	7.5	48
35	LR, LRM, R, RM, YR, YRM	LBPS3501AS2-A	PLK35-7	1900	70	124.5	7.5	55
45	A, B, CA, CB, HA, HB, LA, LB	LBPS4501AS2-A		2600	86	132	10	60
45	LR, R, YR	LBPS4501AS2-A	PLK45-10	2600	86	132	10	70
55	A, B, CA, CB, HA, HB, LA, LB	LBPS5501AS2-A	PLK55-3	3600	100	132	10	70
55	LR, R, YR	LBPS5501AS2-A	PLK55-13	3600	100	132	10	80

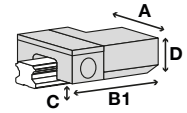
► SERIES LCE CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



Rail size	Carriage type	Series LCE	
		Order No.	Distance plate*
15	A, AM, B, BM, C	LCE1501AS1-A	
15	R, RM, YR, YRM	LCE1501AS1-A	PMK15-4
20	A, AM, B, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM, LR, R, RM, YR, YRM, BM, LLRM	LCE2001AS1-A	PMK20-2-A
25	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	LCE2501AS1-A	PMK25-2
25	LR, LRM, R, RM, YR, YRM	LCE2501AS1-A	PMK25-6
30	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	LCE3001AS1-A	
30	LR, LRM, R, RM, YR, YRM	LCE3001AS1-A	PMK30-3

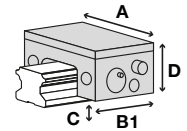
► RAIL TYPE: HSR

► SERIES LKE CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



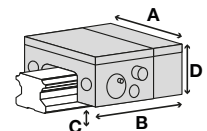
Rail size	Carriage type	Series LKE					
		Order No.	Distance plate*	Holding force [N]**	B1 [mm]	C [mm]	D [mm]
15	A, AM, B, BM, C	LKE1501AS1		600	137.3	4.05	24
15	R, RM, YR, YRM	LKE1501AS1	PLKE15-4	600	137.3	4.05	28
20	A, AM, B, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM, LR, R, RM, YR, YRM, BM, LLRM	LKE2001AS1	PLKE20-2	800	137.3	6.45	30
25	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	LKE2501AS1	PLKE25-2	1100	153.2	9	36
25	LR, LRM, R, RM, YR, YRM	LKE2501AS1	PLKE25-6	1100	153.2	9	40
35	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	LKE3501AS1	PLKE35-2	1800	166.1	12.1	48
35	LR, LRM, R, RM, YR, YRM	LKE3501AS1	PLKE35-9	1800	166.1	12.1	55

► SERIES LKP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series LKP						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
15	A, AM, B, BM, C	LKP1501AS2-A		550	34	49	3.3	24
15	R, RM, YR, YRM	LKP1501AS2-A	PLK15-4	550	34	49	3.3	28
20	A, AM, B, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM, LR, R, RM, YR, YRM, BM, LLRM	LKP2001AS2-A		850	44	52	5.5	30
25	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	LKP2501AS2-A		1100	48	57	7.5	36
25	LR, LRM, R, RM, YR, YRM	LKP2501AS2-A	PLK25-4	1100	48	57	7.5	40
30	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	LKP3001AS2-A		1800	60	66.5	7	42
30	LR, LRM, R, RM, YR, YRM	LKP3001AS2-A	PLK30-3	1800	60	66.5	7	45
35	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	LKP3501AS2-A		2500	70	68.5	7.5	48
35	LR, LRM, R, RM, YR, YRM	LKP3501AS2-A	PLK35-7	2500	70	68.5	7.5	55
45	A, B, CA, CB, HA, HB, LA, LB	LKP4501AS2-A		3500	86	78	10	60
45	LR, R, YR	LKP4501AS2-A	PLK45-10	3500	86	78	10	70
55	A, B, CA, CB, HA, HB, LA, LB	LKP5501AS2-A		4500	100	78	10	70
55	LR, R, YR	LKP5501AS2-A	PLK55-13	4500	100	78	10	80

► SERIES LKPS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



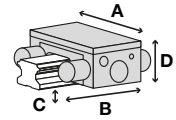
Rail size	Carriage type	Series LKPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	A, AM, B, BM, C	LKPS1501AS2-A		400	34	76	3.3	24
15	R, RM, YR, YRM	LKPS1501AS2-A	PLK15-4	400	34	76	3.3	28
20	A, AM, B, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM, LR, R, RM, YR, YRM, BM, LLRM	LKPS2001AS2-A		600	44	81	5.5	30
25	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	LKPS2501AS2-A		750	48	86	7.5	36
25	LR, LRM, R, RM, YR, YRM	LKPS2501AS2-A	PLK25-4	750	48	86	7.5	40

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

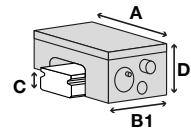
► RAIL TYPE: HSR

► SERIES MBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



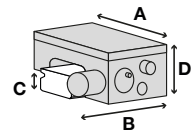
Rail size	Carriage type	Series MBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	A, AM, B, BM, C	MBPS1501AS1		800	61	94	2.5	24
15	R, RM, YR, YRM	MBPS1501AS1	PMB15-4	800	61	94	2.5	28
20	A, AM, B, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM, LR, R, RM, YR, YRM, BM, LLRM	MBPS2001AS1		900	66	94	4.2	30
25	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	MBPS2504BS1		1200	75	94	6.5	36
25	LR, LRM, R, RM, YR, YRM	MBPS2504BS1	PMB25-4	1200	75	94	6.5	40
30	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	MBPS3004BS1		1300	90	98.2	7	42
30	LR, LRM, R, RM, YR, YRM	MBPS3004BS1	PMB30-3	1300	90	98.2	7	45
35	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	MBPS3501AS1		2000	100	106	9.5	48
35	LR, LRM, R, RM, YR, YRM	MBPS3501AS1	PMB35-7	2000	100	106	9.5	55
45	A, B, CA, CB, HA, HB, LA, LB	MBPS4504BS1		2600	120	108.7	15	60
45	LR, R, YR	MBPS4504BS1	PMB45-10	2600	120	108.7	15	70
55	A, B, CA, CB, HA, HB, LA, LB	MBPS5501AS1		3600	140	113.2	13	70
55	LR, R, YR	MBPS5501AS1	PMK65-10	3600	140	113.2	13	80

► SERIES MCP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



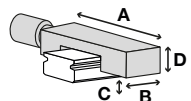
Rail size	Carriage type	Series MCP						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
12	RM	MCP1201A	PMC12-2	280	37.5	34	7.95	20

► SERIES MCPS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series MCPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
12	RM	MCPS1201A	PMC12-2	240	37.5	52.5	7.95	20

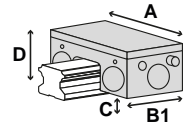
► SERIES MINIHK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



Rail size	Carriage type	Series miniHK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
12	RM	HK1200M	PHM12-4	150	27	19	6.5	20

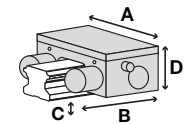
► RAIL TYPE: HSR

► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series MK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
12	RM	MK1201A		350	48.6	50	4	20
15	A, AM, B, BM, C	MK1501A		650	55	39	2.5	24
15	R, RM, YR, YRM	MK1501A	PMK15-4	650	55	39	2.5	28
20	A, AM, B, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM, LR, R, RM, YR, YRM, BM, LLRM	MK2001A		1000	66	39	4.5	30
25	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	MK2501A		1200	75	35	8	36
25	LR, LRM, R, RM, YR, YRM	MK2501A	PMK25-4	1200	75	35	8	40
30	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	MK3001A		1750	90	39	7	42
30	LR, LRM, R, RM, YR, YRM	MK3001A	PMK30-3	1750	90	39	7	45
35	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	MK3501A	PMK35-3	2000	100	39	8.5	48
35	LR, LRM, R, RM, YR, YRM	MK3501A	PMK35-10	2000	100	39	8.5	55
45	A, B, CA, CB, HA, HB, LA, LB	MK4501A		2250	120	49	16.5	60
45	LR, R, YR	MK4501A	PMK45-10	2250	120	49	16.5	70
55	A, B, CA, CB, HA, HB, LA, LB	MK5501A		2250	128	49	21.5	70
55	LR, R, YR	MK5501A	PMK55-10	2250	128	49	21.5	80
65	A, B, CA, CB, HA, HB, LA, LB, LR, R, YR	MK6501A		2250	138	49	27	90

► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



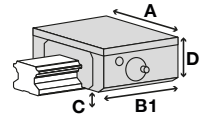
Rail size	Carriage type	Series MKS					
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	D [mm]
12	RM	MKS1201A		250	48.6	64	20
15	A, AM, B, BM, C	MKS1501A		400	55	58	24
15	R, RM, YR, YRM	MKS1501A	PMK15-4	400	55	58	28
20	A, AM, B, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM, LR, R, RM, YR, YRM, BM, LLRM	MKS2001A		600	66	61	30
25	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	MKS2501A		750	75	56	36
25	LR, LRM, R, RM, YR, YRM	MKS2501A	PMK25-4	750	75	56	40
30	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	MKS3001A		1050	90	68	42
30	LR, LRM, R, RM, YR, YRM	MKS3001A	PMK30-3	1050	90	68	45
35	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	MKS3501A	PMK35-3	1250	100	67	48
35	LR, LRM, R, RM, YR, YRM	MKS3501A	PMK35-10	1250	100	67	55
45	A, B, CA, CB, HA, HB, LA, LB	MKS4501A		1450	120	82	60
45	LR, R, YR	MKS4501A	PMK45-10	1450	120	82	70
55	A, B, CA, CB, HA, HB, LA, LB	MKS5501A		1450	128	82	70
55	LR, R, YR	MKS5501A	PMK55-10	1450	128	82	80
65	A, B, CA, CB, HA, HB, LA, LB, LR, R, YR	MKS6501A		1450	138	82	90

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

► RAIL TYPE: HSR

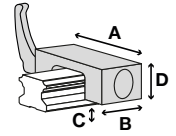
► SERIES UBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series UBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
25	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	UBPS2501AS1		1200	70	100	5	36
25	LR, LRM, R, RM, YR, YRM	UBPS2501AS1	PUB25-4	1200	70	100	5	40
30	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	UBPS3001AS1		1750	90	109	5	42
30	LR, LRM, R, RM, YR, YRM	UBPS3001AS1	PUB30-3	1750	90	109	5	45
35	A, AM, B, BM, C, CA, CAM, CB, CBM, HA, HAM, HB, HBM, LA, LAM, LB, LBM	UBPS3501AS1		2500	100	109	6	48
35	LR, LRM, R, RM, YR, YRM	UBPS3501AS1	PUB35-7	2500	100	109	6	55
45	A, B, CA, CB, HA, HB, LA, LB	UBPS4501AS1		3100	120	109	8	60
45	LR, R, YR	UBPS4501AS1	PUB45-10	3100	120	109	8	70
55	A, B, CA, CB, HA, HB, LA, LB	UBPS5501AS1L		5200	140	197	10	70
55	LR, R, YR	UBPS5501AS1L	PUBL55-10	5200	140	197	10	80
65	A, B, CA, CB, HA, HB, LA, LB, LR, R, YR	UBPS6501AS1L		7700	170	197	11.5	90

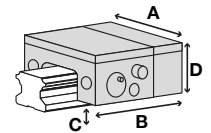
► RAIL TYPE: HSV

► SERIES HK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



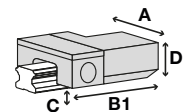
Rail size	Carriage type	Series HK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	C	HK1501A		1200	47	24	6.5	24
15	R	HK1501A	PHK15-4	1200	47	24	6.5	28
20	C, R	HK2001A		1200	60	24	10	30
25	C	HK2501A		1200	70	30	13	36
25	R	HK2501A	PHK25-4	1200	70	30	13	40
30	C	HK3001A		2000	90	39	10	42
30	R	HK3001A	PHK30-3	2000	90	39	10	45
35	C	HK3501A		2000	100	39	11	48
35	R	HK3501A	PMK35-7	2000	100	39	11	55
45	C	HK4501A		2000	120	44	16	60
45	R	HK4501A	PHK45-10	2000	120	44	16	70

► SERIES LBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series LBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	C	LBPS1501AS2-A		400	34	76	3.3	24
15	R	LBPS1501AS2-A	PLK15-4	400	34	76	3.3	28
20	C, R	LBPS2001AS2-A		600	44	81	5.5	30
25	C	LBPS2501AS2-A		750	48	86	7.5	36
25	R	LBPS2501AS2-A	PLK25-4	750	48	86	7.5	40
30	C	LBPS3001AS2-A		1200	60	109.5	7	42
30	R	LBPS3001AS2-A	PLK30-3	1200	60	109.5	7	45
35	C	LBPS3501AS2-A		1900	70	124.5	7.5	48
35	R	LBPS3501AS2-A	PLK35-7	1900	70	124.5	7.5	55
45	C	LBPS4501AS2-A		2600	86	132	10	60
45	R	LBPS4501AS2-A	PLK45-10	2600	86	132	10	70

► SERIES LCE CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



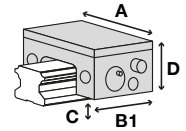
Rail size	Carriage type	Series LCE	
		Order No.	Distance plate*
15	C	LCE1501QS1-A	
15	R	LCE1501QS1-A	PMK15-4
20	C, R	LCE2001QS1-A	PMK20-2-A
25	C	LCE2501QS1-A	PMK25-2
25	R	LCE2501QS1-A	PMK25-6

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

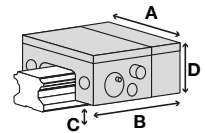
► RAIL TYPE: HSV

► SERIES LKP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



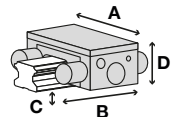
Rail size	Carriage type	Series LKP						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
15	C	LKP1501AS2-A		550	34	49	3.3	24
15	R	LKP1501AS2-A	PLK15-4	550	34	49	3.3	28
20	C, R	LKP2001AS2-A		850	44	52	5.5	30
25	C	LKP2501AS2-A		1100	48	57	7.5	36
25	R	LKP2501AS2-A	PLK25-4	1100	48	57	7.5	40
30	C	LKP3001AS2-A		1800	60	66.5	7	42
30	R	LKP3001AS2-A	PLK30-3	1800	60	66.5	7	45
35	C	LKP3501AS2-A		2500	70	68.5	7.5	48
35	R	LKP3501AS2-A	PLK35-7	2500	70	68.5	7.5	55
45	C	LKP4501AS2-A		3500	86	78	10	60
45	R	LKP4501AS2-A	PLK45-10	3500	86	78	10	70

► SERIES LKPS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series LKPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	C	LKPS1501AS2-A		400	34	76	3.3	24
15	R	LKPS1501AS2-A	PLK15-4	400	34	76	3.3	28
20	C, R	LKPS2001AS2-A		600	44	81	5.5	30
25	C	LKPS2501AS2-A		750	48	86	7.5	36
25	R	LKPS2501AS2-A	PLK25-4	750	48	86	7.5	40

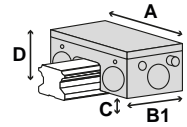
► SERIES MBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series MBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	C	MBPS1501AS1		800	61	94	2.5	24
15	R	MBPS1501AS1	PMB15-4	800	61	94	2.5	28
20	C, R	MBPS2001AS1		900	66	94	4.2	30
30	C	MBPS3004BS1		1300	90	98.2	7	42
30	R	MBPS3004BS1	PMB30-3	1300	90	98.2	7	45
35	C	MBPS3501AS1		2000	100	106	9.5	48
35	R	MBPS3501AS1	PMB35-7	2000	100	106	9.5	55
45	C	MBPS4504BS1		2600	120	108.7	15	60
45	R	MBPS4504BS1	PMB45-10	2600	120	108.7	15	70

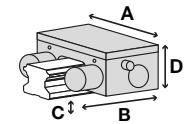
► RAIL TYPE: HSV

► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series MK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
15	C	MK1501A		650	55	39	2.5	24
15	R	MK1501A	PMK15-4	650	55	39	2.5	28
20	C, R	MK2001A		1000	66	39	4.5	30
25	C	MK2501A		1200	75	35	8	36
25	R	MK2501A	PMK25-4	1200	75	35	8	40
30	C	MK3001A		1750	90	39	7	42
30	R	MK3001A	PMK30-3	1750	90	39	7	45
35	C	MK3501A	PMK35-3	2000	100	39	8.5	48
35	R	MK3501A	PMK35-10	2000	100	39	8.5	55
45	C	MK4501A		2250	120	49	16.5	60
45	R	MK4501A	PMK45-10	2250	120	49	16.5	70

► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



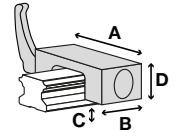
Rail size	Carriage type	Series MKS					
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	D [mm]
15	C	MKS1501A		400	55	58	24
15	R	MKS1501A	PMK15-4	400	55	58	28
20	C, R	MKS2001A		600	66	61	30
25	C	MKS2501A		750	75	56	36
25	R	MKS2501A	PMK25-4	750	75	56	40
30	C	MKS3001A		1050	90	68	42
30	R	MKS3001A	PMK30-3	1050	90	68	45
35	C	MKS3501A	PMK35-3	1250	100	67	48
35	R	MKS3501A	PMK35-10	1250	100	67	55
45	C	MKS4501A		1450	120	82	60
45	R	MKS4501A	PMK45-10	1450	120	82	70

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

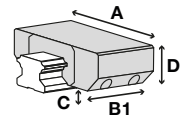
► RAIL TYPE: NR

► SERIES HK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



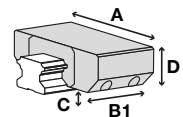
Rail size	Carriage type	Series HK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
25	XA, XB, XLA, XLB, XLR, XR	HK2501A		1200	70	30	8	31
30	A, B, LA, LB, LR, R	HK3001A		2000	90	39	6	38
35	A, B, LA, LB, LR, R	HK3501A		2000	100	39	7	44
45	A, B, LA, LB, LR, R	HK4501A		2000	120	44	8	52
55	A, B, LA, LB, LR, R	HK5501A		2000	140	49	12	63
65	A, B, LA, LB, LR, R	HK6501A		2000	160	64	9	75

► SERIES KBH CLAMPING AND BRAKING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series KBH						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
25	XLR, XR	KBH2501BS1		1600	70	100	5.5	31
30	LR, R	KBH3001BS1		2100	90	111.5	7	38
35	A, B, LA, LB, LR, R	KBH3501BS1		4300	100	128.5	8	44
45	A, B, LA, LB, LR, R	KBH4501BS1		7400	120	163	10	52
55	A, B, LA, LB, LR, R	KBH5501BS1		10200	140	192	12	63
65	A, B, LA, LB, LR, R	KBH6501BS1		17000	170	208	11	75
85	A, B, LA, LB, LR, R	KBH8501BS1	PKW85-8	13700	165	192	14	82
100	A, B, LA, LB	KBH10001BS1		34000	250	208	7	105

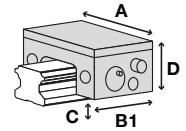
► SERIES KWH CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series KWH						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
25	XA, XB, XLA, XLB, XLR, XR	KWH2501BS1		1600	70	92	4.5	31
30	A, B, LA, LB, LR, R	KWH3001BS1		2100	90	103.5	7	38
35	A, B, LA, LB, LR, R	KWH3501BS1		4300	100	120.5	8	44
45	A, B, LA, LB, LR, R	KWH4501BS1		7400	120	155	10	52
55	A, B, LA, LB, LR, R	KWH5501BS1		10200	140	184	12	63
65	A, B, LA, LB, LR, R	KWH6501BS1		17000	170	200	11	75

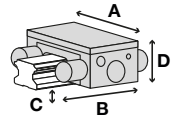
► RAIL TYPE: NR

► SERIES LKP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



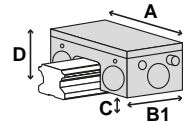
Rail size	► Carriage type	► Series LKP	
		Order No.	Distance plate*
25	XA, XB, XLA, XLB, XLR, XR	⊕	
45	A, B, LA, LB, LR, R	⊗	
55	A, B, LA, LB, LR, R	⊕	

► SERIES MBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



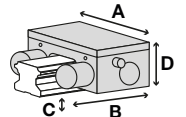
Rail size	► Carriage type	► Series MBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
30	A, B, LA, LB, LR, R	MBPS3004BS1		1300	90	98.2	3	38
35	A, B, LA, LB, LR, R	MBPS3504BS1		2000	100	106	5.5	44
45	A, B, LA, LB, LR, R	MBPS4504BS1		2600	120	108.7	7	52

► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	► Carriage type	► Series MK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
25	XA, XB, XLA, XLB, XLR, XR	MK2501N		1200	75	35	3	31
30	A, B, LA, LB, LR, R	MK3001A		1750	90	39	3	38
35	A, B, LA, LB, LR, R	MK3501A		2000	100	39	7.5	44
45	A, B, LA, LB, LR, R	MK4501A		2250	120	49	8.5	52
55	A, B, LA, LB, LR, R	MK5501A		2250	128	49	14.5	63
65	A, B, LA, LB, LR, R	MK6501N		2250	138	49	16	75
85	A, B, LA, LB, LR, R	MK8501A		2250	160	49	23	90

► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



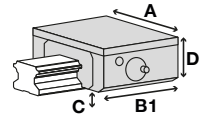
Rail size	► Carriage type	► Series MKS					
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	D [mm]
25	XA, XB, XLA, XLB, XLR, XR	MKS2501N		750	75	56	31
30	A, B, LA, LB, LR, R	MKS3001A		1050	90	68	38
35	A, B, LA, LB, LR, R	MKS3501A		1250	100	67	44
45	A, B, LA, LB, LR, R	MKS4501A		1450	120	82	52
55	A, B, LA, LB, LR, R	MKS5501A		1450	128	82	63
65	A, B, LA, LB, LR, R	MKS6501N		1450	138	82	75
85	A, B, LA, LB, LR, R	MKS8501A		1450	160	82	90

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

► RAIL TYPE: NR

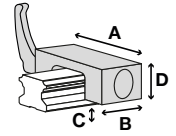
► SERIES UBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	► Carriage type	► Series UBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
35	A, B, LA, LB, LR, R	UBPS3501BS1		2500	100	109	5.5	44
45	A, B, LA, LB, LR, R	UBPS4501BS1		3100	120	109	7	52
55	A, B, LA, LB, LR, R	UBPS5501BS1L		5200	140	197	11	63
65	A, B, LA, LB, LR, R	UBPS6501BS1L		7700	170	197	11	75

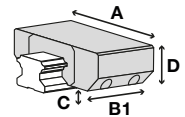
► RAIL TYPE: NRS

► SERIES HK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



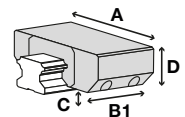
Rail size	Carriage type	Series HK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
25	XA, XB, XLA, XLB, XLR, XR	HK2501A		1200	70	30	8	31
30	A, B, LA, LB, LR, R	HK3001A		2000	90	39	6	38
35	A, B, LA, LB, LR, R	HK3501A		2000	100	39	7	44
45	A, B, LA, LB, LR, R	HK4501A		2000	120	44	8	52
55	A, B, LA, LB, LR, R	HK5501A		2000	140	49	12	63
65	A, B, LA, LB, LR, R	HK6501A		2000	160	64	9	75

► SERIES KBH CLAMPING AND BRAKING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series KBH						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
25	XLR, XR	KBH2501BS1		1600	70	100	5.5	31
30	LR, R	KBH3001BS1		2100	90	111.5	7	38
35	A, B, LA, LB, LR, R	KBH3501BS1		4300	100	128.5	8	44
45	A, B, LA, LB, LR, R	KBH4501BS1		7400	120	163	10	52
55	A, B, LA, LB, LR, R	KBH5501BS1		10200	140	192	12	63
65	A, B, LA, LB, LR, R	KBH6501BS1		17000	170	208	11	75
85	A, B, LA, LB, LR, R	KBH8501BS1	PKW85-8	13700	165	192	14	82
100	A, B, LA, LB	KBH10001BS1		34000	250	208	7	105

► SERIES KWH CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



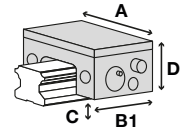
Rail size	Carriage type	Series KWH						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
25	XA, XB, XLA, XLB, XLR, XR	KWH2501BS1		1600	70	92	4.5	31
30	A, B, LA, LB, LR, R	KWH3001BS1		2100	90	103.5	7	38
35	A, B, LA, LB, LR, R	KWH3501BS1		4300	100	120.5	8	44
45	A, B, LA, LB, LR, R	KWH4501BS1		7400	120	155	10	52
55	A, B, LA, LB, LR, R	KWH5501BS1		10200	140	184	12	63
65	A, B, LA, LB, LR, R	KWH6501BS1		17000	170	200	11	75

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

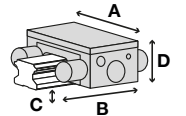
► RAIL TYPE: NRS

► SERIES LKP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



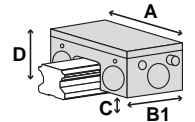
Rail size	Carriage type	Series LKP	
		Order No.	Distance plate*
25	XA, XB, XLA, XLB, XLR, XR	⊕	
45	A, B, LA, LB, LR, R	⊗	
55	A, B, LA, LB, LR, R	⊕	

► SERIES MBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



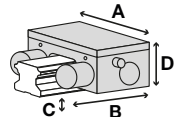
Rail size	Carriage type	Series MBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
30	A, B, LA, LB, LR, R	MBPS3004BS1		1300	90	98.2	3	38
35	A, B, LA, LB, LR, R	MBPS3504BS1		2000	100	106	5.5	44
45	A, B, LA, LB, LR, R	MBPS4504BS1		2600	120	108.7	7	52

► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series MK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
25	XA, XB, XLA, XLB, XLR, XR	MK2501N		1200	75	35	3	31
30	A, B, LA, LB, LR, R	MK3001A		1750	90	39	3	38
35	A, B, LA, LB, LR, R	MK3501A		2000	100	39	7.5	44
45	A, B, LA, LB, LR, R	MK4501A		2250	120	49	8.5	52
55	A, B, LA, LB, LR, R	MK5501A		2250	128	49	14.5	63
65	A, B, LA, LB, LR, R	MK6501N		2250	138	49	16	75
85	A, B, LA, LB, LR, R	MK8501A		2250	160	49	23	90

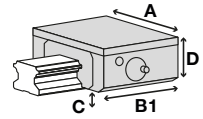
► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series MKS					
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	D [mm]
25	XA, XB, XLA, XLB, XLR, XR	MKS2501N		750	75	56	31
30	A, B, LA, LB, LR, R	MKS3001A		1050	90	68	38
35	A, B, LA, LB, LR, R	MKS3501A		1250	100	67	44
45	A, B, LA, LB, LR, R	MKS4501A		1450	120	82	52
55	A, B, LA, LB, LR, R	MKS5501A		1450	128	82	63
65	A, B, LA, LB, LR, R	MKS6501N		1450	138	82	75
85	A, B, LA, LB, LR, R	MKS8501A		1450	160	82	90

▶ RAIL TYPE: NRS

▶ SERIES UBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



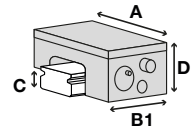
Rail size	▶ Carriage type	▶ Series UBPS						
		Order No.	Distance plate *	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
35	A, B, LA, LB, LR, R	UBPS3501BS1		2500	100	109	5.5	44
45	A, B, LA, LB, LR, R	UBPS4501BS1		3100	120	109	7	52
55	A, B, LA, LB, LR, R	UBPS5501BS1L		5200	140	197	11	63
65	A, B, LA, LB, LR, R	UBPS6501BS1L		7700	170	197	11	75

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

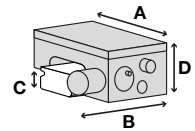
► RAIL TYPE: RSR

► SERIES MCP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



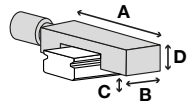
Rail size	Carriage type	Series MCP						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
9	KM, N	MCP0901A		130	32.5	34	1.45	10
12	VM, KM, N	MCP1201M		280	37.5	34	2.95	13
15	KM, N	MCP1501M		320	41.5	34	3.95	16

► SERIES MCPS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series MCPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
9	KM, N	MCPS0901A		80	32.5	52.5	1.45	10
12	VM, KM, N	MCPS1201M		240	37.5	52.5	2.95	13
15	KM, N	MCPS1501M		280	41.5	52.5	3.95	16

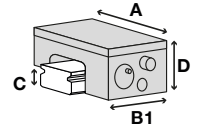
► SERIES MINIHK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



Rail size	Carriage type	Series miniHK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
7	M, N	HK0700M		65	17	12	2	8
9	KM, N	HK0900M		100	20	17	2.7	10
12	N, VM	HK1200M		150	27	19	3.5	13
15	N, VM	HK1500M		180	32	20	5	16
20	N, VM	HK2000M		220	46	26	10	25

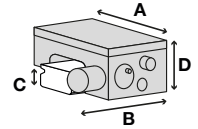
► RAIL TYPE: RSR-W

► SERIES MCP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



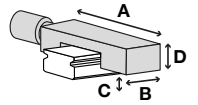
► Carriage type		► Series MCP						
Rail size		Order No.	Distance plate *	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
9	WN, WV, WVM	MCP0900MW		130	42.3	34	2.95	12

► SERIES MCPS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



► Carriage type		► Series MCPS						
Rail size		Order No.	Distance plate *	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
9	WN, WV, WVM	MCPS0900MW		80	42.3	52.5	2.95	12

► SERIES MINIHK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



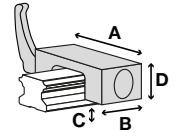
► Carriage type		► Series miniHK						
Rail size		Order No.	Distance plate *	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
5	WN, WM, WTM, WTN	HK0500MW		40	17	14	2	6.5
7	WM, WTM, WTN	HK0700MW		65	25	12	3	9
9	WN, WV, WVM	HK0900MW		100	30	17	4.2	12
12	WN, WV, WVM	HK1200MW		150	40	19	4	14

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
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 NC = Elements are opened when pressurized

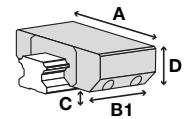
► RAIL TYPE: SHS

► SERIES HK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



Rail size	Carriage type	Series HK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	C, LC, LV, V	HK1501A	PHK15-2	1200	47	24	4.5	24
15	R	HK1501A	PHK15-6	1200	47	24	4.5	28
20	C, LC, LV, V	HK2001A	PHK20-2	1200	60	24	8	30
25	C, LC, LV, V	HK2501A	PHK25-4	1200	70	30	9	36
25	LR, R	HK2501A	PHK25-8	1200	70	30	9	40
30	C, LC, LV, V	HK3001A		2000	90	39	10	42
30	LR, R	HK3001A	PHK30-3	2000	90	39	10	45
35	C, LC, LV, V	HK3501A	PMK35-4	2000	100	39	7	48
35	LR, R	HK3501A	PMK35-11	2000	100	39	7	55
45	C, LC, LV, V	HK4501A		2000	120	44	16	60
45	LR, R	HK4501A	PHK45-10	2000	120	44	16	70
55	C, LC, LV, V	HK5501A	PHK55-4	2000	140	49	15	70
55	LR, R	HK5501A	PHK55-14	2000	140	49	15	80
65	C, LC, LV, V	HK6501A		2000	160	64	24	90

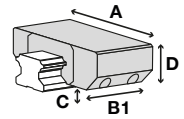
► SERIES KBH CLAMPING AND BRAKING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series KBH						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
25	C, LC, LV, V	KBH2501CS1		2200	70	100	6.5	36
25	LR, R	KBH2501CS1	PKW25-4	2200	70	100	6.5	36
30	C, LC, LV, V	KBH3001CS1		3000	90	111.5	7	42
30	LR, R	KBH3001CS1	PKW30-3	3000	90	111.5	7	42
35	C, LC	KBH3501CS1		5700	100	128.5	8	48
45	C, LC, LV, V	KBH4501CS1		9900	120	163	10	60
45	LR, R	KBH4501CS1	PKW45-10	9900	120	163	10	60
55	C, LC, LV, V	KBH5501CS1		13700	140	192	13	70
55	LR, R	KBH5501CS1	PKW55-10	13700	140	192	13	70
65	C, LC, LV, V	KBH6501CS1		22700	170	235	14	90

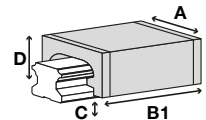
► RAIL TYPE: SHS

► SERIES KWH CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series KWH						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
25	C, LC, LV, V	KWH2501CS1		2200	70	92	6.5	36
25	LR, R	KWH2501CS1	PKW25-4	2200	70	92	6.5	36
30	C, LC, LV, V	KWH3001CS1		3000	90	103.5	7	42
30	LR, R	KWH3001CS1	PKW30-3	3000	90	103.5	7	42
35	C, LC	KWH3501CS1		5700	100	120.5	8	48
45	C, LC, LV, V	KWH4501CS1		9900	120	155	10	60
45	LR, R	KWH4501CS1	PKW45-10	9900	120	155	10	60
55	C, LC, LV, V	KWH5501CS1		13700	140	184	13	70
55	LR, R	KWH5501CS1	PKW55-10	13700	140	184	13	70
65	C, LC, LV, V	KWH6501CS1		22700	170	227	14	90

► SERIES LBHS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



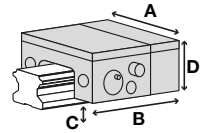
Rail size	Carriage type	Series LBHS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
20	C, LC, LV, V	LBHS2001CS2		1300	43.8	110	5.5	30
20	C, C, C, C, LC, LC, LC, LC, LV, LV, LV, LV, V, V, V, V	⊗						
25	C, LC, LV, V	LBHS2501CS2		2000	47.6	130	7.5	36
25	LR, R	LBHS2501CS2	PLBH25-4	2000	47.6	130	7.5	40
30	C, LC, LV, V	LBHS3001CS2		3500	59.6	180	7	42
30	LR, R	LBHS3001CS2	PLBH30-3	3500	59.6	180	7	45
35	C, LC, LV, V	LBHS3501CS2		5000	69.5	190	7.5	48
35	LR, R	LBHS3501CS2	PLBH35-7	5000	69.5	190	7.5	55
45	C, LC	LBHS4501CS2		7000	85.6	210	10	60
45	LR, R	LBHS4501CS2	PLBH45-10	7000	85.6	210	10	70
55	C, LC, LV, V	LBHS5501CS2		10000	99.5	256	13	70
55	LR, R	LBHS5501CS2	PLBH55-10	10000	99.5	256	13	80
65	C, LC, LV, V	LBHS6501CS2		13700	125.5	276	11.5	90

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

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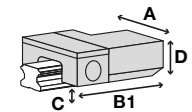
► RAIL TYPE: SHS

► SERIES LBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



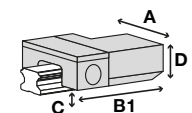
Rail size	Carriage type	Series LBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	C, LC, LV, V	LBPS1501AS2-A		400	34	76	3.3	24
15	R	LBPS1501AS2-A	PLK15-4	400	34	76	3.3	28
20	C, LC, LV, V	LBPS2001AS2-A		600	44	81	5.5	30
25	C, LC, LV, V	LBPS2501AS2-A	PLK25-2	750	48	86	5.5	36
25	LR, R	LBPS2501AS2-A	PLK25-6	750	48	86	5.5	40
30	C, LC, LV, V	LBPS3001AS2-A		1200	60	109.5	7	42
30	LR, R	LBPS3001AS2-A	PLK30-3	1200	60	109.5	7	45
35	C, LC, LV, V	LBPS3501AS2-A		1900	70	124.5	7.5	48
35	LR, R	LBPS3501AS2-A	PLK35-7	1900	70	124.5	7.5	55
45	C, LC, LV, V	LBPS4501AS2-A	PLK45-3	2600	86	132	7	60
45	LR, R	LBPS4501AS2-A	PLK45-13	2600	86	132	7	70
55	C, LC, LV, V	LBPS5501AS2-A	PLK55-5	3600	100	132	8	70
55	LR, R	LBPS5501AS2-A	PLK55-15	3600	100	132	8	80

► SERIES LCE CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



Rail size	Carriage type	Series LCE	
		Order No.	Distance plate*
15	LC, LV, V	LCE1501CS1-A	PMK15-1
15	R	LCE1501CS1-A	PMK15-5
20	C, LC, LV, V	LCE2001CS1-A	PMK20-2-A
25	C, LC, LV, V	LCE2501CS1-A	PMK25-4
25	LR, R	LCE2501CS1-A	PMK25-8

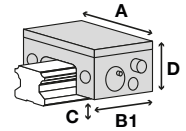
► SERIES LKE CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



Rail size	Carriage type	Series LKE					
		Order No.	Distance plate*	Holding force [N]**	B1 [mm]	C [mm]	D [mm]
15	C, LC, LV, V	LKE1501AS1	PLKE15-1-5	600	137.3	2.55	24
15	R	LKE1501AS1	PLKE15-5-5	600	137.3	2.55	28
25	C, LC, LV, V	LKE2501AS1	PLKE25-3	1100	153.2	8	36
25	LR, R	LKE2501AS1	PLKE25-7	1100	153.2	8	40
35	C, LC, LV, V	LKE3501AS1	PLKE35-4	1800	166.1	10.1	48
35	LR, R	LKE3501AS1	PLKE35-11	1800	166.1	10.1	55

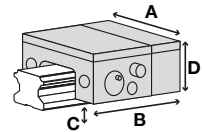
► RAIL TYPE: SHS

► SERIES LKP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



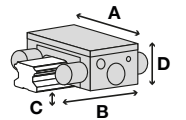
Rail size	Carriage type	Series LKP						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
15	C, LC, LV, V	LKP1501AS2-A		550	34	49	3.3	24
15	R	LKP1501AS2-A	PLK15-4	550	34	49	3.3	28
20	C, LC, LV, V	LKP2001AS2-A		850	44	52	5.5	30
25	C, LC, LV, V	LKP2501AS2-A	PLK25-2	1100	48	57	5.5	36
25	LR, R	LKP2501AS2-A	PLK25-6	1100	48	57	5.5	40
30	C, LC, LV, V	LKP3001AS2-A		1800	60	66.5	7	42
30	LR, R	LKP3001AS2-A	PLK30-3	1800	60	66.5	7	45
35	C, LC, LV, V	LKP3501AS2-A		2500	70	68.5	7.5	48
35	LR, R	LKP3501AS2-A	PLK35-7	2500	70	68.5	7.5	55
45	C, LC, LV, V	LKP4501AS2-A	PLK45-3	3500	86	78	7	60
45	LR, R	LKP4501AS2-A	PLK45-13	3500	86	78	7	70
55	C, LC, LV, V	LKP5501AS2-A	PLK55-5	4500	100	78	8	70
55	LR, R	LKP5501AS2-A	PLK55-15	4500	100	78	8	80

► SERIES LKPS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series LKPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	C, LC, LV, V	LKPS1501AS2-A		400	34	76	3.3	24
15	R	LKPS1501AS2-A	PLK15-4	400	34	76	3.3	28
20	C, LC, LV, V	LKPS2001AS2-A		600	44	81	5.5	30
25	C, LC, LV, V	LKPS2501AS2-A	PLK25-2	750	48	86	5.5	36
25	LR, R	LKPS2501AS2-A	PLK25-6	750	48	86	5.5	40

► SERIES MBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



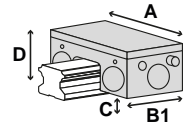
Rail size	Carriage type	Series MBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
20	C, LC, LV, V	MBPS2001CS1		900	66	94	4.2	30
25	C, LC, LV, V	MBPS2504BS1	PMB25-1	1200	75	94	5.5	36
25	LR, R	MBPS2504BS1	PMB25-5	1200	75	94	5.5	40
30	C, LC, LV, V	MBPS3004BS1		1300	90	98.2	7	42
30	LR, R	MBPS3004BS1	PMB30-3	1300	90	98.2	7	45
35	C, LC, LV, V	MBPS3501CS1		2000	100	106	8	48
35	LR, R	MBPS3501CS1	PMB35-7	2000	100	106	8	55
45	C, LC, LV, V	MBPS4504BS1	PMB45-3	2600	120	108.7	12	60
45	LR, R	MBPS4504BS1	PMB45-13	2600	120	108.7	12	70
55	C, LC, LV, V	MBPS5501CS1		3600	140	113.2	13	70
55	LR, R	MBPS5501CS1	PMK65-10	3600	140	113.2	13	80

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

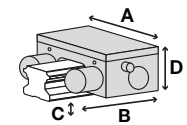
► RAIL TYPE: SHS

► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series MK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
15	C, LC, LV, V	MK1501A		650	55	39	2.5	24
15	R	MK1501A	PMK15-4	650	55	39	2.5	28
20	C, LC, LV, V	MK2001A		1000	66	39	4.5	30
25	C, LC, LV, V	MK2501A	PMK25-2	1200	75	35	6	36
25	LR, R	MK2501A	PMK25-6	1200	75	35	6	40
30	C, LC, LV, V	MK3001A		1750	90	39	7	42
30	LR, R	MK3001A	PMK30-3	1750	90	39	7	45
35	C, LC, LV, V	MK3501A	PMK35-4	2000	100	39	7.5	48
35	LR, R	MK3501A	PMK35-11	2000	100	39	7.5	55
45	C, LC, LV, V	MK4501A	PMK45-6	2250	120	49	10.5	60
45	LR, R	MK4501A	PMK45-16	2250	120	49	10.5	70
55	C, LC, LV, V	MK5501A	PMK55-6	2250	128	49	15.5	70
55	LR, R	MK5501A	PMK55-16	2250	128	49	15.5	80
65	C, LC, LV, V	MK6501A		2250	138	49	27	90

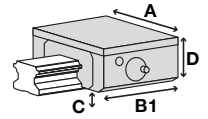
► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series MKS					
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	D [mm]
15	C, LC, LV, V	MKS1501A		400	55	58	24
15	R	MKS1501A	PMK15-4	400	55	58	28
20	C, LC, LV, V	MKS2001A		600	66	61	30
25	C, LC, LV, V	MKS2501A	PMK25-2	750	75	56	36
25	LR, R	MKS2501A	PMK25-6	750	75	56	40
30	C, LC, LV, V	MKS3001A		1050	90	68	42
30	LR, R	MKS3001A	PMK30-3	1050	90	68	45
35	C, LC, LV, V	MKS3501A	PMK35-4	1250	100	67	48
35	LR, R	MKS3501A	PMK35-11	1250	100	67	55
45	C, LC, LV, V	MKS4501A	PMK45-6	1450	120	82	60
45	LR, R	MKS4501A	PMK45-16	1450	120	82	70
55	C, LC, LV, V	MKS5501A	PMK55-6	1450	128	82	70
55	LR, R	MKS5501A	PMK55-16	1450	128	82	80
65	C, LC, LV, V	MKS6501A		1450	138	82	90

► RAIL TYPE: SHS

► SERIES UBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



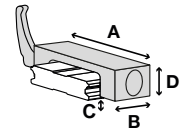
Rail size	Carriage type	Series UBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
25	C, LC, LV, V	UBPS2501CS1		1200	70	100	5	36
25	LR, R	UBPS2501CS1	PUB25-4	1200	70	100	5	40
30	C, LC, LV, V	UBPS3001CS1		1750	90	109	5	42
30	LR, R	UBPS3001CS1	PUB30-3	1750	90	109	5	45
35	C, LC, LV, V	UBPS3501CS1		2500	100	109	6	48
35	LR, R	UBPS3501CS1	PUB35-7	2500	100	109	6	55
45	C, LC, LV, V	UBPS4501CS1		3100	120	109	8	60
45	LR, R	UBPS4501CS1	PUB45-10	3100	120	109	8	70
55	C, LC, LV, V	UBPS5501CS1L		5200	140	197	10	70
55	LR, R	UBPS5501CS1L	PUBL55-10	5200	140	197	10	80
65	C, LC, LV, V	UBPS6501CS1L		7700	170	197	11.5	90

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
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 NC = Elements are opened when pressurized

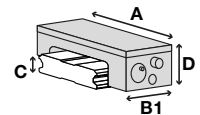
► RAIL TYPE: SHW

► SERIES HK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



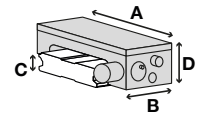
Rail size	Carriage type	Series HK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
17	CAM, CRM	HK1701B		1200	60	25	2.5	17
21	CAM, CRM	HK2101B		1200	77	24	3	21
27	CA, CR	HK2701B		1200	80	30	4	27
35	CA, CR	HK3501B		2000	135	39	4	35
50	CA, CR	HK5001B		2000	145	39	11	50

► SERIES MCP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



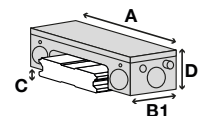
Rail size	Carriage type	Series MCP						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
12	CA, CR, HR	MCP0900MW		130	42.3	34	2.95	12
14	CAM, CRM	MCP1200MW		280	50	34	3.95	14
17	CAM, CRM	MCP1701B		280	68	34	4.95	17

► SERIES MCPS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series MCPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
12	CA, CR, HR	MCPS0900MW		80	42.3	52.5	2.95	12
14	CAM, CRM	MCPS1200MW		250	50	52.5	3.95	14
17	CAM, CRM	MCPS1701B		250	68	52.5	4.95	17

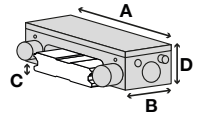
► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series MK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
17	CAM, CRM, HRCM	MK1701B		350	70	48	1.2	17
21	CA, CR	MK2101B		650	77	49	2	21
27	CA, CR	MK2701B		1000	88	53	4	27
35	CA, CR	MK3501B		1200	121	36	5	35
50	CA, CR	MK5001B		2000	156	39	4.5	50

► RAIL TYPE: SHW

► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



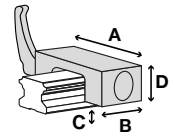
Rail size	► Carriage type	► Series MKS					
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	D [mm]
17	CAM, CRM, HRCM	MKS1701B		250	70	64	17
21	CA, CR	MKS2101B		400	77	58	21
27	CA, CR	MKS2701B		600	88	65	27
35	CA, CR	MKS3501B		750	121	57	35
50	CA, CR	MKS5001B		1250	156	67	50

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
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 NC = Elements are opened when pressurized

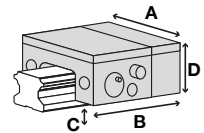
► RAIL TYPE: SR

► SERIES HK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



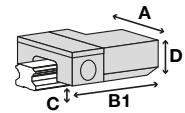
Rail size	Carriage type	Series HK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	SB, SBM, TB, TBM, V, VM, W, WM	HK1501A		1200	47	24	6.5	24
20	SB, SBM, TB, TBM, V, VM, W, WM	HK2001A		1200	60	24	8	28
25	SB, SBM, TB, TBM, V, VM, W, WM	HK2501A		1200	70	30	10	33
30	SB, SBM, TB, TBM, V, VM, W, WM	HK3001A		2000	90	39	10	42
35	SB, SBM, TB, TBM, V, VM, W, WM	HK3501A	PMK35-4	2000	100	39	7	48
45	TB, W	HK4501A		2000	120	44	16	60
55	TB, W	HK5501A		2000	140	49	17	68

► SERIES LBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



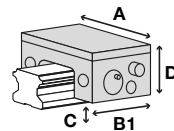
Rail size	Carriage type	Series LBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	SB, SBM, TB, TBM, V, VM, W, WM	LBPS1501AS2-A		400	34	76	3.3	24
20	SB, SBM, TB, TBM, V, VM, W, WM	LBPS2001AS2-A		600	44	81	3.5	28
25	SB, SBM, TB, TBM, V, VM, W, WM	LBPS2501AS2-A		750	48	86	4.5	33
35	SB, SBM, TB, TBM, V, VM, W, WM	LBPS3501AS2-A		1900	70	124.5	7.5	48
45	TB, W	LBPS4501AS2-A		2600	86	132	10	60

► SERIES LCE CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



Rail size	Carriage type	Series LCE	
		Order No.	Distance plate*
15	SB, SBM, TB, TBM, V, VM, W, WM	LCE1501GS1-A	
20	SB, SBM, TB, TBM, V, VM, W, WM	LCE2001GS1-A	
25	SB, SBM, TB, TBM, V, VM, W, WM	LCE2501GS1-A	PMK25-1

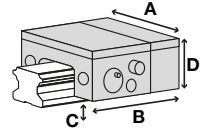
► SERIES LKP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series LKP						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
15	SB, SBM, TB, TBM, V, VM, W, WM	LKP1501AS2-A		550	34	49	3.3	24
20	SB, SBM, TB, TBM, V, VM, W, WM	LKP2001AS2-A		850	44	52	3.5	28
25	SB, SBM, TB, TBM, V, VM, W, WM	LKP2501AS2-A		1100	48	57	4.5	33
30	SB, SBM, TB, TBM, V, VM, W, WM	Ⓢ						
35	SB, SBM, TB, TBM, V, VM, W, WM	LKP3501AS2-A		2500	70	68.5	7.5	48
45	TB, W	LKP4501AS2-A		3500	86	78	10	60
55	TB, W	Ⓢ						

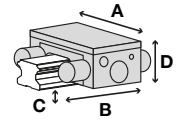
► RAIL TYPE: SR

► SERIES LKPS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



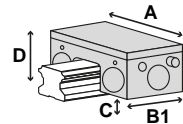
Rail size	► Carriage type	► Series LKPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	SB, SBM, TB, TBM, V, VM, W, WM	LKPS1501AS2-A		400	34	76	3.3	24
20	SB, SBM, TB, TBM, V, VM, W, WM	LKPS2001AS2-A		600	44	81	3.5	28
25	SB, SBM, TB, TBM, V, VM, W, WM	LKPS2501AS2-A		750	48	86	4.5	33

► SERIES MBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



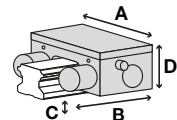
Rail size	► Carriage type	► Series MBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	SB, SBM, TB, TBM, V, VM, W, WM	MBPS1501GS1		800	61	94	2.5	24
20	SB, SBM, TB, TBM, V, VM, W, WM	MBPS2001GS1		1000	66	94	2.2	28
25	SB, SBM, TB, TBM, V, VM, W, WM	MBPS2501GS1		1000	75	95	5.5	33
30	SB, SBM, TB, TBM, V, VM, W, WM	MBPS3004BS1		1300	90	98.2	7	42

► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	► Carriage type	► Series MK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
15	SB, SBM, TB, TBM, V, VM, W, WM	MK1501A		650	55	39	2.5	24
20	SB, SBM, TB, TBM, V, VM, W, WM	MK2001A		1000	66	39	2.5	28
25	SB, SBM, TB, TBM, V, VM, W, WM	MK2501A		1200	75	35	5	33
30	SB, SBM, TB, TBM, V, VM, W, WM	MK3001A		1750	90	39	7	42
35	SB, SBM, TB, TBM, V, VM, W, WM	MK3501A	PMK35-3	2000	100	39	8.5	48
45	TB, W	MK4501A		2250	120	49	16.5	60
55	TB, W	MK5501SR		2250	128	49	19.5	68

► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



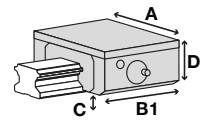
Rail size	► Carriage type	► Series MKS					
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	D [mm]
15	SB, SBM, TB, TBM, V, VM, W, WM	MKS1501A		400	55	58	24
20	SB, SBM, TB, TBM, V, VM, W, WM	MKS2001A		600	66	61	28
25	SB, SBM, TB, TBM, V, VM, W, WM	MKS2501A		750	75	56	33
30	SB, SBM, TB, TBM, V, VM, W, WM	MKS3001A		1050	90	68	42
35	SB, SBM, TB, TBM, V, VM, W, WM	MKS3501A	PMK35-3	1250	100	67	48
45	TB, W	MKS4501A		1450	120	82	60
55	TB, W	MKS5501SR		1450	128	82	68

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

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 NC = Elements are opened when pressurized

▶ RAIL TYPE: SR

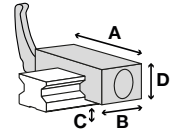
▶ SERIES UBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	▶ Carriage type	▶ Series UBPS						
		Order No.	Distance plate *	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
25	SB, SBM, TB, TBM, V, VM, W, WM	UBPS2501GS1		1000	72	100	5	33

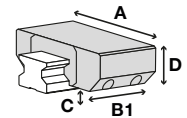
► RAIL TYPE: SRG

► SERIES HK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



Rail size	Carriage type	Series HK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
20	A, LA, LV, V	HK2006A		1200	60	24	7	30
25	C, LC	HK2501A		1200	70	30	13	36
25	LR, R	HK2501A	PHK25-4	1200	70	30	13	40
30	C, LC	HK3001E		2000	90	39	9	42
30	LR, R	HK3001E	PHK30-3	2000	90	39	9	45
35	C, LC	HK3505KR	PMK35-1	2000	100	39	10	48
35	LR, R	HK3505KR	PMK35-8	2000	100	39	10	55
45	C, LC	HK4505KR	PHK45-2	2000	120	44	14	60
45	LR, R	HK4505KR	PHK45-12	2000	120	44	14	70
55	C, LC	HK5501E		2000	140	49	19	70
55	LR, R	HK5501E	PHK55-10	2000	140	49	19	80
65	C, LC, LV	HK6504F		2000	160	64	24	90

► SERIES KBH CLAMPING AND BRAKING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



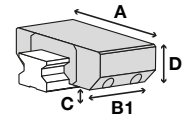
Rail size	Carriage type	Series KBH						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
25	C, LC	KBH2501ES1		2200	70	100	6.5	36
25	LR, R	KBH2501ES1	PKW25-4	2200	70	100	6.5	36
30	C, LC	KBH3001ES1		3000	90	111.5	7	42
30	LR, R	KBH3001ES1	PKW30-3	3000	90	111.5	7	42
35	C, LC	KBH3501ES1		5700	100	128.5	8	48
35	LR	KBH3501ES3		3500	70	128.5	6	55
45	C, LC	KBH4501ES1		9900	120	163	10	60
45	LR, R	KBH4501ES3	PKW45-2-01	7400	86	163	8	68
55	C, LC	KBH5501ES1		13700	140	192	13	70
65	C, LC	KBH6501ES1		22700	170	235	11.5	90
85	LC	KBH8501ES1		27400	215	192	16	110
100	LC	KBH10001ES1		34000	250	208	15	120

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

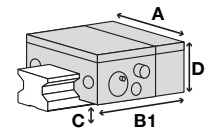
► RAIL TYPE: SRG

► SERIES KWH CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



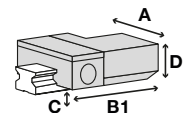
Rail size	► Carriage type		► Series KWH						
			Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
25	C, LC		KWH2501ES1		2200	70	92	6.5	36
25	LR, R		KWH2501ES1	PKW25-4	2200	70	92	6.5	36
30	C, LC		KWH3001ES1		3000	90	103.5	7	42
30	LR, R		KWH3001ES1	PKW30-3	3000	90	103.5	7	42
35	C, LC		KWH3501ES1		5700	100	120.5	8	48
35	LR, R		KWH3501ES3		3500	70	120.5	6.5	55
45	C, LC		KWH4501ES1		9900	120	155	10	60
45	LR, R		KWH4501ES3	PKW45-2-01	7400	86	155	8	68
55	C, LC		KWH5501ES1		13700	140	184	13	70
55	LR, R		KWH5501ES3		13700	100	184	9	80
65	C, LC		KWH6501ES1		22700	170	227	11.5	90
65	LV		KWH6501ES3	PKW65-4-01	22700	126	226	10	86

► SERIES LBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	► Carriage type		► Series LBPS						
			Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	A, V		LBPS1501AS2-A		400	34	76	3.3	24
20	A, LA, LV, V		LBPS2001AS2-A		600	44	81	5.5	30
25	C, LC		LBPS2501AS2-A		750	48	86	7.5	36
25	LR, R		LBPS2501AS2-A	PLK25-4	750	48	86	7.5	40
30	C, LC		LBPS3001ES2-A		1200	60	109.5	7	42
30	LR, R		LBPS3001ES2-A	PLK30-3	1200	60	109.5	7	45
35	C, LC		LBPS3501ES2-A		1900	70	124.5	7.5	48
35	LR, R		LBPS3501ES2-A	PLK35-7	1900	70	124.5	7.5	55
45	C, LC		LBPS4501ES2-A	PLK45-3	2600	86	132	7	60
45	LR, R		LBPS4501ES2-A	PLK45-13	2600	86	132	7	70
55	C, LC		LBPS5501ES2-A	PLK55-5	3600	100	132	8	70
55	LR, R		LBPS5501ES2-A	PLK55-15	3600	100	132	8	80

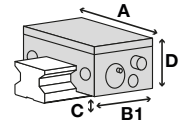
► SERIES LCE CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



Rail size	► Carriage type		► Series LCE	
			Order No.	Distance plate*
15	A, V		LCE1501ES1-A	
20	A, LA, LV, V		LCE2001ES1-A	
25	C, LC		LCE2501ES1-A	PMK25-1
25	LR, R		LCE2501ES1-A	PMK25-5

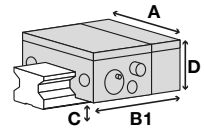
► RAIL TYPE: SRG

► SERIES LKP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



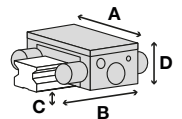
Rail size	Carriage type	Series LKP						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
15	A, V	LKP1501AS2-A		550	34	49	3.3	24
20	A, LA, LV, V	LKP2001AS2-A		850	44	52	5.5	30
25	C, LC	LKP2501AS2-A		1100	48	57	7.5	36
25	LR, R	LKP2501AS2-A	PLK25-4	1100	48	57	7.5	40
30	C, LC	LKP3001ES2-A		1800	60	66.5	7	42
30	LR, R	LKP3001ES2-A	PLK30-3	1800	60	66.5	7	45
35	C, LC	LKP3501ES2-A		2500	70	68.5	7.5	48
35	LR, R	LKP3501ES2-A	PLK35-7	2500	70	68.5	7.5	55
45	C, LC	LKP4501ES2-A	PLK45-3	3500	86	78	7	60
45	LR, R	LKP4501ES2-A	PLK45-13	3500	86	78	7	70
55	C, LC	LKP5501ES2-A	PLK55-5	4500	100	78	8	70
55	LR, R	LKP5501ES2-A	PLK55-15	4500	100	78	8	80

► SERIES LKPS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series LKPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	A, V	LKPS1501AS2-A		400	34	76	3.3	24
20	A, LA, LV, V	LKPS2001AS2-A		600	44	81	5.5	30
25	C, LC	LKPS2501AS2-A		750	48	86	7.5	36
25	LR, R	LKPS2501AS2-A	PLK25-4	750	48	86	7.5	40

► SERIES MBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



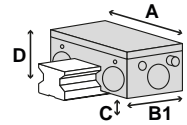
Rail size	Carriage type	Series MBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	A, V	MBPS1501ES1		900	61	94	2.5	24
20	A, LA, LV, V	MBPS2001ES1		1000	66	94	4.2	30
25	C, LC	MBPS2501ES1		1300	75	93.4	3.5	36
25	LR, R	MBPS2501ES1	PMB25-4	1300	75	93.4	3.5	40
30	C, LC	MBPS3001ES1		1300	90	98.2	7	42
30	LR, R	MBPS3001ES1	PMB30-3	1300	90	98.2	7	45
35	C, LC	MBPS3501ES1		2600	100	105.7	6	48
35	LR, R	MBPS3501ES1	PMB35-7	2600	100	105.7	6	55
45	C, LC	MBPS4501ES1		3600	120	113.2	8	60
45	LR, R	MBPS4501ES1	PMB45-10	3600	120	113.2	8	70
55	C, LC	MBPS5501ES1	PMB55-3	4700	140	144	8	70
55	LR, R	MBPS5501ES1	PMB55-13	4700	140	144	8	80

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

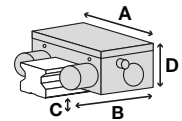
► RAIL TYPE: SRG

► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series MK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
15	A, V	MK1501E		650	55	39	3.2	24
20	A, LA, LV, V	MK2001E		1000	66	39	3	30
25	C, LC	MK2501E	PMK25-5	1200	75	35	3.5	36
25	LR, R	MK2501E	PMK25-9	1200	75	35	3.5	40
30	C, LC	MK3001E		1200	90	39	5	42
30	LR, R	MK3001E	PMK30-3	1200	90	39	5	45
35	C, LC	MK3501E		2000	100	39	4	48
35	LR, R	MK3501E	PMK35-7	2000	100	39	4	55
45	C, LC	MK4501E		2250	120	49	8	60
45	LR, R	MK4501E	PMK45-10	2250	120	49	8	70
55	C, LC	MK5501F	PMK55-7	2250	128	49	10	70
55	LR, R	MK5501F	PMK55-17	2250	128	49	10	80
65	C, LC, LV	MK6501E		2250	138	49	16.5	90

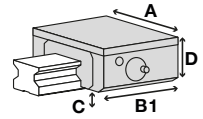
► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series MKS					
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	D [mm]
15	A, V	MKS1501E		400	55	58	24
20	A, LA, LV, V	MKS2001E		600	66	61	30
25	C, LC	MKS2501E	PMK25-5	750	75	56	36
25	LR, R	MKS2501E	PMK25-9	750	75	56	40
30	C, LC	MKS3001E		750	90	60	42
30	LR, R	MKS3001E	PMK30-3	750	90	60	45
35	C, LC	MKS3501E		1250	100	67	48
35	LR, R	MKS3501E	PMK35-7	1250	100	67	55
45	C, LC	MKS4501E		1450	120	82	60
45	LR, R	MKS4501E	PMK45-10	1450	120	82	70
55	C, LC	MKS5501F	PMK55-7	1450	128	82	70
55	LR, R	MKS5501F	PMK55-17	1450	128	82	80
65	C, LC, LV	MKS6501E		1450	138	82	90

► RAIL TYPE: SRG

► SERIES UBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



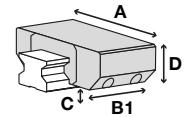
Rail size	Carriage type	Series UBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
25	C, LC	UBPS2501ES1	PUB25-1-5	1500	70	99	3.5	36
25	LR, R	UBPS2501ES1	PUB25-5-5	1500	70	99	3.5	40
30	C, LC	UBPS3001ES1		1750	90	109	5	42
30	LR, R	UBPS3001ES1	PUB30-3	1750	90	109	5	45
35	C, LC	UBPS3501ES1		2800	100	109	6	48
35	LR, R	UBPS3501ES1	PUB35-7	2800	100	109	6	55
45	C, LC	UBPS4501ES1L		5200	120	197	8	60
45	LR, R	UBPS4501ES1L	PUBL45-10	5200	120	197	8	70
55	C, LC	UBPS5501ES1L		7700	140	197	10	70
55	LR, R	UBPS5501ES1L	PUBL55-10	7700	140	197	10	80
65	C, LC, LV	UBPS6501ES1L		7700	170	197	11.5	90

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

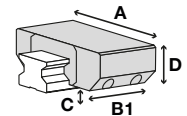
► RAIL TYPE: SRN

► SERIES KBH CLAMPING AND BRAKING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



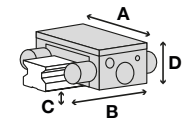
► Carriage type		► Series KBH						
Rail size		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
65	LC, LR	KBH6501FS1		17000	170	208	11	75

► SERIES KWH CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



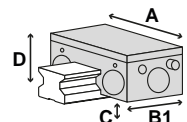
► Carriage type		► Series KWH						
Rail size		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
65	LC, LR	KWH6501FS1		17000	170	200	11	75

► SERIES MBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



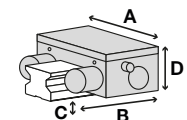
► Carriage type		► Series MBPS						
Rail size		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
35	C, LC, LR, R	MBPS3501FS1		2000	100	106	5.5	44

► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



► Carriage type		► Series MK						
Rail size		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
45	C, LC, LR, R	MK4501F		2250	120	49	7	52
55	C, LC, LR, R	MK5501F		2250	128	49	10	63
65	LC, LR	MK6501F		2250	138	49	13.5	75

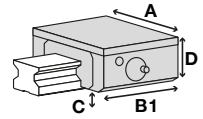
► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



► Carriage type		► Series MKS						
Rail size		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	D [mm]	
45	C, LC, LR, R	MKS4501F		1450	120	82	52	
55	C, LC, LR, R	MKS5501F		1450	128	82	63	
65	LC, LR	MKS6501F		1450	138	82	75	

▶ RAIL TYPE: SRN

▶ SERIES UBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



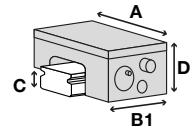
Rail size	▶ Carriage type	▶ Series UBPS						
		Order No.	Distance plate *	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
45	C, LC, LR, R	UBPS4501FS1		3100	120	109	7	52
55	C, LC, LR, R	UBPS5501FS1L		5200	140	197	11	63
65	LC, LR	UBPS6501FS1L		7700	170	197	11	75

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
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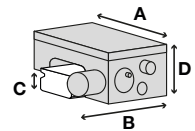
► RAIL TYPE: SRS

► SERIES MCP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



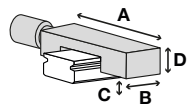
Rail size	Carriage type	Series MCP						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
9	M, N	MCP0901H		130	32.5	34	2.15	10
12	M, N	MCP1201A		280	37.5	34	2.95	13
15	M, N	MCP1501H		320	41.5	34	3.95	16
20	M	MCP2001A		550	48.7	41	2.45	20
25	M	MCP2501H		550	54.4	41	5.05	25

► SERIES MCPS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series MCPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
9	M, N	MCPS0901H		80	32.5	52.5	2.15	10
12	M, N	MCPS1201A		240	37.5	52.5	2.95	13
15	M, N	MCPS1501H		280	41.5	52.5	3.95	16
20	M	MCPS2001A		400	48.7	60	2.45	20
25	M	MCPS2501H		400	54.4	60	5.05	25

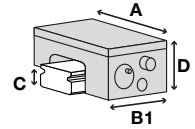
► SERIES MINIHK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



Rail size	Carriage type	Series miniHK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
5	M	HK0500M		40	12	14	1.5	6
7	M	HK0700M		65	17	12	2	8
9	M, N	HK0900M		100	20	17	2.7	10
12	M, N	HK1200M		150	27	19	3.5	13
15	M, N	HK1500M		180	32	20	5	16
20	M	HK2000M		220	46	26	5	20
25	M	HK2500M		300	48	35	5	25

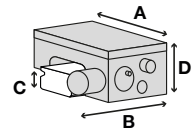
► RAIL TYPE: SRS-W

► SERIES MCP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



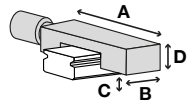
Rail size	Carriage type	Series MCP						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
9	WM, WN	MCP0900MW		130	42.3	34	2.95	12
12	WM, WN	MCP1200MW		280	50	34	3.95	14
15	WN, WM	MCP1501HW		280	68	34	3.95	16

► SERIES MCPS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series MCPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
9	WM, WN	MCPS0900MW		80	42.3	52.5	2.95	12
12	WM, WN	MCPS1200MW		250	50	52.5	3.95	14
15	WN	MCPS1501HW		240	68	52.5	3.95	16
15	WM	MCPS1503MW		240	68	52.5	3.95	16

► SERIES MINIHK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



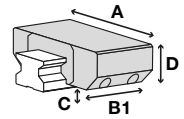
Rail size	Carriage type	Series miniHK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
7	WN	HK0700MW		65	25	12	3	9
9	WM, WN	HK0900MW		100	30	17	4.2	12
12	WM, WN	HK1200MW		150	40	19	4	14
15	WN, WM	HK1500MW		180	60	22	4.5	16

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
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 NC = Elements are opened when pressurized

▶ RAIL TYPE: SRW

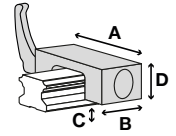
▶ SERIES KBH CLAMPING AND BRAKING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



▶ Carriage type		▶ Series KBH						
Rail size		Order No.	Distance plate *	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
85	LR	KBH8501JS1		13700	165	192	12	80

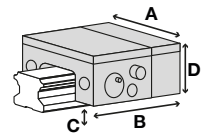
► RAIL TYPE: SSR

► SERIES HK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



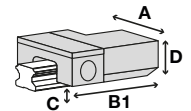
Rail size	► Carriage type	► Series HK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	XTB, XTBY, XV, XVM, XVY, XW, XWM, XWY	HK1501A		1200	47	24	6.5	24
20	XTB, XV, XVM, XW, XWM	HK2001A		1200	60	24	8	28
25	XTB, XTBY, XV, XVM, XVY, XW, XWM, XWY	HK2501A		1200	70	30	10	33
30	XW, XWM	HK3001A		2000	90	39	10	42
35	XW	HK3501A	PMK35-4	2000	100	39	7	48

► SERIES LBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



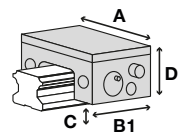
Rail size	► Carriage type	► Series LBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	XTB, XTBY, XV, XVM, XVY, XW, XWM, XWY	LBPS1501AS2-A		400	34	76	3.3	24
20	XV, XVM, XW, XWM	LBPS2001AS2-A		600	44	81	3.5	28
25	XTB, XTBY, XV, XVM, XVY, XW, XWM, XWY	LBPS2501AS2-A		750	48	86	4.5	33
30	XW, XWM	LBPS3001AS2-A		1200	60	109.5	7	42
35	XW	LBPS3501AS2-A		1900	70	124.5	7.5	48

► SERIES LCE CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



Rail size	► Carriage type	► Series LCE	
		Order No.	Distance plate*
15	XTB, XTBY, XV, XVM, XVY, XW, XWM, XWY	LCE1501GS1-A	
20	XTB, XV, XVM, XW, XWM	LCE2001GS1-A	
25	XTB, XTBY, XV, XVM, XVY, XW, XWM, XWY	LCE2501GS1-A	PMK25-1

► SERIES LKP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



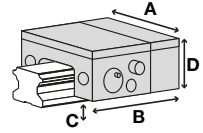
Rail size	► Carriage type	► Series LKP						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
15	XTB, XTBY, XV, XVM, XVY, XW, XWM, XWY	LKP1501AS2-A		550	34	49	3.3	24
20	XV, XVM, XW, XWM	LKP2001AS2-A		850	44	52	3.5	28
25	XTB, XTBY, XV, XVM, XVY, XW, XWM, XWY	LKP2501AS2-A		1100	48	57	4.5	33
30	XW, XWM	LKP3001AS2-A		1800	60	66.5	7	42
35	XW	LKP3501AS2-A		2500	70	68.5	7.5	48

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

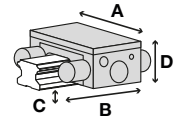
► RAIL TYPE: SSR

► SERIES LKPS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



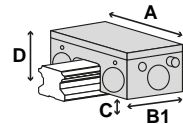
Rail size	Carriage type	Series LKPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	XTB, XTBY, XV, XVM, XVY, XW, XWM, XWY	LKPS1501AS2-A		400	34	76	3.3	24
20	XV, XVM, XW, XWM	LKPS2001AS2-A		600	44	81	3.5	28
25	XTB, XTBY, XV, XVM, XVY, XW, XWM, XWY	LKPS2501AS2-A		750	48	86	4.5	33

► SERIES MBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



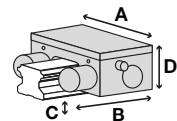
Rail size	Carriage type	Series MBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
15	XTB, XTBY, XV, XVM, XVY, XW, XWM, XWY	MBPS1501GS1		800	61	94	2.5	24
20	XTB, XV, XVM, XW, XWM	MBPS2001GS1		1000	66	94	2.2	28
25	XTB, XTBY, XVM, XVY, XWM, XWY	MBPS2501GS1		1000	75	95	5.5	33
30	XW, XWM	MBPS3004BS1		1300	90	98.2	7	42

► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series MK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
15	XTB, XTBY, XV, XVM, XVY, XW, XWM, XWY	MK1501A		650	55	39	2.5	24
20	XTB, XV, XW	MK2001A		1000	66	39	2.5	28
25	XTB, XTBY, XV, XVM, XVY, XW, XWM, XWY	MK2501A		1200	75	35	5	33
30	XW	MK3001A		1750	90	39	7	42
35	XW	MK3501A	PMK35-3	2000	100	39	8.5	48

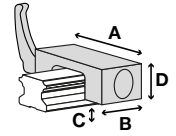
► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series MKS					
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	D [mm]
15	XTB, XTBY, XV, XVM, XVY, XW, XWM, XWY	MKS1501A		400	55	58	24
20	XTB, XV, XW	MKS2001A		600	66	61	28
25	XTB, XTBY, XV, XVM, XVY, XW, XWM, XWY	MKS2501A		750	75	56	33
30	XW	MKS3001A		1050	90	68	42
35	XW	MKS3501A	PMK35-3	1250	100	67	48

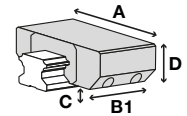
► RAIL TYPE: SVR

► SERIES HK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



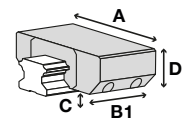
Rail size	Carriage type	Series HK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
25	C, LC, LR, R	HK2501A		1200	70	30	8	31
30	C, LC, LR, R	HK3001A		2000	90	39	6	38
35	C, LC, LR, R	HK3501A		2000	100	39	7	44
35	CH, LCH	HK3501A	PMK35-4	2000	100	39	7	48
35	LRH, RH	HK3501A	PMK35-11	2000	100	39	7	55
45	C, LC, LR, R	HK4501A		2000	120	44	8	52
45	CH, LCH	HK4501A	PHK45-8	2000	120	44	8	60
45	LRH, RH	HK4501A	PHK45-18	2000	120	44	8	70
55	C, LC, LR, R	HK5501A		2000	140	49	12	63
55	CH, LCH	HK5501A	PHK55-17	2000	140	49	12	80
55	LRH, RH	HK5501A	PHK55-7	2000	140	49	12	70
65	C, LC, LR, R	HK6501A		2000	160	64	9	75

► SERIES KBH CLAMPING AND BRAKING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series KBH						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
45	CH, LCH	KBH4501PS1	PKW45-8	7400	120	163	10	52
45	LRH, RH	KBH4501PS1	PKW45-18	7400	120	163	10	52
55	CH, LCH	KBH5501PS1	PKW55-7	10200	140	192	12	63
55	LRH, RH	KBH5501PS1	PKW55-17	10200	140	192	12	63
65	C, LC, LR, R	KBH6501PS1		17000	170	208	11	75

► SERIES KWH CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



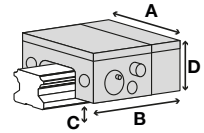
Rail size	Carriage type	Series KWH						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
45	C, LC, LR, R	KWH4501PS1		7400	120	155	10	52
45	CH, LCH	KWH4501PS1	PKW45-8	7400	120	155	10	52
45	LRH, RH	KWH4501PS1	PKW45-18	7400	120	155	10	52
55	C, LC, LR, R	KWH5501PS1		10200	140	184	12	63
55	CH, LCH	KWH5501PS1	PKW55-7	10200	140	184	12	63
55	LRH, RH	KWH5501PS1	PKW55-17	10200	140	184	12	63
65	C, LC, LR, R	KWH6501PS1		17000	170	200	11	75

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

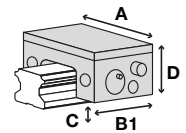
► RAIL TYPE: SVR

► SERIES LBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



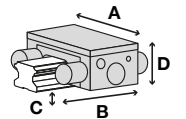
Rail size	Carriage type	Series LBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
35	CH, LCH	LBPS3501AS2-A		1900	70	124.5	7.5	48
35	LRH, RH	LBPS3501AS2-A	PLK35-7	1900	70	124.5	7.5	55

► SERIES LKP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series LKP						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
25	C, LC, LR, R							
30	C, LC, LR, R							
35	CH, LCH	LKP3501AS2-A		2500	70	68.5	7.5	48
35	LRH, RH	LKP3501AS2-A	PLK35-7	2500	70	68.5	7.5	55
45	C, CH, LC, LCH, LR, LRH, R, RH							
55	C, LC, LR, R	LKP5501AS2-A		4500	100	78	6	63
55	CH, LCH	LKP5501AS2-A	PLK55-7	4500	100	78	6	70
55	LRH, RH	LKP5501AS2-A	PLK55-15	4500	100	78	8	80

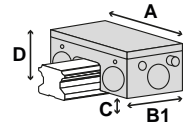
► SERIES MBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series MBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
25	C, LC, LR, R	MBPS2501IS1		750	72	94	5.2	31
30	C, LC, LR, R	MBPS3004BS1		1300	90	98.2	3	38
35	C, LC, LR, R	MBPS3504BS1		2000	100	106	5.5	44
35	CH, LCH	MBPS3504BS1	PMB35-4	2000	100	106	5.5	48
35	LRH, RH	MBPS3504BS1	PMB35-11	2000	100	106	5.5	55
45	C, LC, LR, R	MBPS4504BS1		2600	120	108.7	7	52
45	CH, LCH	MBPS4504BS1	PMB45-8	2600	120	108.7	7	60
45	LRH, RH	MBPS4504BS1	PMB45-18	2600	120	108.7	7	70
55	C, LC, LR, R	MBPS5504BS1		3600	140	113.2	6	63
55	CH, LCH	MBPS5504BS1	PMK65-7	3600	140	113.2	6	70
55	LRH, RH	MBPS5504BS1	PMK65-17	3600	140	113.2	6	80

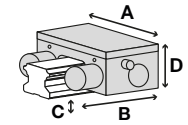
► RAIL TYPE: SVR

► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



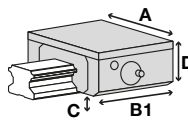
Rail size	Carriage type	Series MK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
25	C, LC, LR, R	MK2501N		1200	75	35	3	31
30	C, LC, LR, R	MK3001A		1750	90	39	3	38
35	C, LC, LR, R	MK3501A	PMK35-3	2000	100	39	4.5	44
35	CH, LCH	MK3501A	PMK35-7	2000	100	39	4.5	48
35	LRH, RH	MK3501A	PMK35-14	2000	100	39	4.5	55
45	C, LC, LR, R	MK4501A		2250	120	49	8.5	52
45	CH, LCH	MK4501A	PMK45-8	2250	120	49	8.5	60
45	LRH, RH	MK4501A	PMK45-18	2250	120	49	8.5	70
55	C, LC, LR, R	MK5501A		2250	128	49	14.5	63
55	CH, LCH	MK5501A	PMK55-7	2250	128	49	14.5	70
55	LRH, RH	MK5501A	PMK55-17	2250	128	49	14.5	80
65	C, LC, LR, R	MK6501N		2250	138	49	16	75

► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series MKS					
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	D [mm]
25	C, LC, LR, R	MKS2501N		750	75	56	31
30	C, LC, LR, R	MKS3001A		1050	90	68	38
35	C, LC, LR, R	MKS3501A	PMK35-3	1250	100	67	44
35	CH, LCH	MKS3501A	PMK35-7	1250	100	67	48
35	LRH, RH	MKS3501A	PMK35-14	1250	100	67	55
45	C, LC, LR, R	MKS4501A		1450	120	82	52
45	CH, LCH	MKS4501A	PMK45-8	1450	120	82	60
45	LRH, RH	MKS4501A	PMK45-18	1450	120	82	70
55	C, LC, LR, R	MKS5501A		1450	128	82	63
55	CH, LCH	MKS5501A	PMK55-7	1450	128	82	70
55	LRH, RH	MKS5501A	PMK55-17	1450	128	82	80
65	C, LC, LR, R	MKS6501N		1450	138	82	75

► SERIES UBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



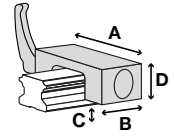
Rail size	Carriage type	Series UBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
35	C, LC, LR, R	UBPS3501PS1		2500	100	109	5.5	44
35	CH, LCH	UBPS3501PS1	PUB35-4	2500	100	109	5.5	48
35	LRH, RH	UBPS3501PS1	PUB35-11	2500	100	109	5.5	55
55	C, LC, LR, R	UBPS5501PS1L		5200	140	197	11	63
55	CH, LCH	UBPS5501PS1L	PUBL55-7	5200	140	197	11	70
55	LRH, RH	UBPS5501PS1L	PUBL55-17	5200	140	197	11	80
65	C, LC, LR, R	UBPS6501PS1L		7700	170	197	11	75

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

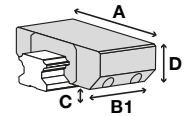
► RAIL TYPE: SVS

► SERIES HK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



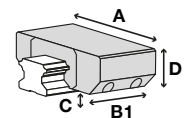
Rail size	Carriage type	Series HK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
25	C, LC, LR, R	HK2501A		1200	70	30	8	31
30	C, LC, LR, R	HK3001A		2000	90	39	6	38
35	C, LC, LR, R	HK3501A		2000	100	39	7	44
35	CH, LCH	HK3501A	PMK35-4	2000	100	39	7	48
35	LRH, RH	HK3501A	PMK35-11	2000	100	39	7	55
45	C, LC, LR, R	HK4501A		2000	120	44	8	52
45	CH, LCH	HK4501A	PHK45-8	2000	120	44	8	60
45	LRH, RH	HK4501A	PHK45-18	2000	120	44	8	70
55	C, LC, LR, R	HK5501A		2000	140	49	12	63
55	CH	HK5501A	PHK55-17	2000	140	49	12	80
55	LRH, RH	HK5501A	PHK55-7	2000	140	49	12	70
65	C, LC, LR, R	HK6501A		2000	160	64	9	75

► SERIES KBH CLAMPING AND BRAKING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series KBH						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
45	CH, LCH	KBH4501PS1	PKW45-8	7400	120	163	10	52
45	LRH, RH	KBH4501PS1	PKW45-18	7400	120	163	10	52
55	CH	KBH5501PS1	PKW55-7	10200	140	192	12	63
55	LRH, RH	KBH5501PS1	PKW55-17	10200	140	192	12	63
65	C, LC, LR, R	KBH6501PS1		17000	170	208	11	75

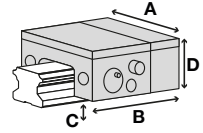
► SERIES KWH CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series KWH						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	X [mm]
45	C, LC, LR, R	KWH4501PS1		7400	120	155	10	52
45	CH, LCH	KWH4501PS1	PKW45-8	7400	120	155	10	52
45	LRH, RH	KWH4501PS1	PKW45-18	7400	120	155	10	52
55	C, LC, LR, R	KWH5501PS1		10200	140	184	12	63
55	CH	KWH5501PS1	PKW55-7	10200	140	184	12	63
55	LRH, RH	KWH5501PS1	PKW55-17	10200	140	184	12	63
65	C, LC, LR, R	KWH6501PS1		17000	170	200	11	75

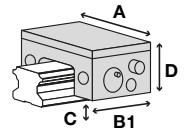
► RAIL TYPE: SVS

► SERIES LBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



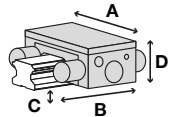
Rail size	Carriage type	Series LBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
35	CH, LCH	LBPS3501AS2-A		1900	70	124.5	7.5	48
35	LRH, RH	LBPS3501AS2-A	PLK35-7	1900	70	124.5	7.5	55

► SERIES LKP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



Rail size	Carriage type	Series LKP						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
25	C, LC, LR, R							
30	C, LC, LR, R							
35	CH, LCH	LKP3501AS2-A		2500	70	68.5	7.5	48
35	LRH, RH	LKP3501AS2-A	PLK35-7	2500	70	68.5	7.5	55
45	C, CH, LC, LCH, LR, LRH, R, RH							
55	C, LC, LR, R	LKP5501AS2-A		4500	100	78	6	63
55	CH	LKP5501AS2-A	PLK55-7	4500	100	78	6	70
55	LRH, RH	LKP5501AS2-A	PLK55-15	4500	100	78	8	80

► SERIES MBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



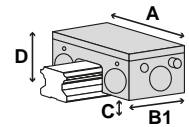
Rail size	Carriage type	Series MBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	C [mm]	D [mm]
25	C, LC, LR, R	MBPS2501IS1		750	72	94	5.2	31
30	C, LC, LR, R	MBPS3004BS1		1300	90	98.2	3	38
35	C, LC, LR, R	MBPS3504BS1		2000	100	106	5.5	44
35	CH, LCH	MBPS3504BS1	PMB35-4	2000	100	106	5.5	48
35	LRH, RH	MBPS3504BS1	PMB35-11	2000	100	106	5.5	55
45	C, LC, LR, R	MBPS4504BS1		2600	120	108.7	7	52
45	CH, LCH	MBPS4504BS1	PMB45-8	2600	120	108.7	7	60
45	LRH, RH	MBPS4504BS1	PMB45-18	2600	120	108.7	7	70
55	C, LC, LR, R	MBPS5504BS1		3600	140	113.2	6	63
55	CH	MBPS5504BS1	PMK65-7	3600	140	113.2	6	70
55	LRH, RH	MBPS5504BS1	PMK65-17	3600	140	113.2	6	80

*Spacer plate and clamping element must be ordered together
 **Tested with lightly oiled lubricating layer (ISO VG 68)

Bi-stable = Elements remain in current position
 NO = Elements are closed when pressurized
 NC = Elements are opened when pressurized

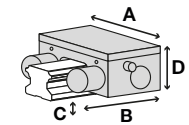
► RAIL TYPE: SVS

► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



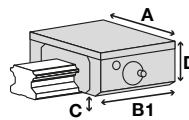
Rail size	Carriage type	Series MK						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
25	C, LC, LR, R	MK2501N		1200	75	35	3	31
30	C, LC, LR, R	MK3001A		1750	90	39	3	38
35	C, LC, LR, R	MK3501A	PMK35-3	2000	100	39	4.5	44
35	CH, LCH	MK3501A	PMK35-7	2000	100	39	4.5	48
35	LRH, RH	MK3501A	PMK35-14	2000	100	39	4.5	55
45	C, LC, LR, R	MK4501A		2250	120	49	8.5	52
45	CH, LCH	MK4501A	PMK45-8	2250	120	49	8.5	60
45	LRH, RH	MK4501A	PMK45-18	2250	120	49	8.5	70
55	C, LC, LR, R	MK5501A		2250	128	49	14.5	63
55	CH	MK5501A	PMK55-7	2250	128	49	14.5	70
55	LRH, RH	MK5501A	PMK55-17	2250	128	49	14.5	80
65	C, LC, LR, R	MK6501N		2250	138	49	16	75

► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series MKS					
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B [mm]	D [mm]
25	C, LC, LR, R	MKS2501N		750	75	56	31
30	C, LC, LR, R	MKS3001A		1050	90	68	38
35	C, LC, LR, R	MKS3501A	PMK35-3	1250	100	67	44
35	CH, LCH	MKS3501A	PMK35-7	1250	100	67	48
35	LRH, RH	MKS3501A	PMK35-14	1250	100	67	55
45	C, LC, LR, R	MKS4501A		1450	120	82	52
45	CH, LCH	MKS4501A	PMK45-8	1450	120	82	60
45	LRH, RH	MKS4501A	PMK45-18	1450	120	82	70
55	C, LC, LR, R	MKS5501A		1450	128	82	63
55	CH	MKS5501A	PMK55-7	1450	128	82	70
55	LRH, RH	MKS5501A	PMK55-17	1450	128	82	80
65	C, LC, LR, R	MKS6501N		1450	138	82	75

► SERIES UBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



Rail size	Carriage type	Series UBPS						
		Order No.	Distance plate*	Holding force [N]**	A [mm]	B1 [mm]	C [mm]	D [mm]
35	C, LC, LR, R	UBPS3501PS1		2500	100	109	5.5	44
35	CH, LCH	UBPS3501PS1	PUB35-4	2500	100	109	5.5	48
35	LRH, RH	UBPS3501PS1	PUB35-11	2500	100	109	5.5	55
55	C, LC, LR, R	UBPS5501PS1L		5200	140	197	11	63
55	CH	UBPS5501PS1L	PUBL55-7	5200	140	197	11	70
55	LRH, RH	UBPS5501PS1L	PUBL55-17	5200	140	197	11	80
65	C, LC, LR, R	UBPS6501PS1L		7700	170	197	11	75

CHECKLIST

LINEAR TECHNOLOGY

Customer number

Telephone number

Company

Fax number

Contact

E-mail

Mr. Mrs.

Sales data

Article

Editor

Target price

Desired delivery date

Others

Quantity Pot. quantity (p.a.)

Information about the guide type

Guide designation

Rail type

With cover Without cover

Rail size

Carriage type

Flat steel / Shaft mm Tolerance +/- μm

Information on the clamping / braking element

Actuation Manual Pneumatic Electrical Hydraulic

Energy parameter bar VA

Status NO (Normally Open) NC (Normally Closed) N (bistable)

Model series

Applications

Static / Dynamic Clamping Braking (emergency stop)

Required holding force N

Velocity m/s

Number of cycles min.

Cycle time max. Opening ms Closing ms

Installation position Horizontal Vertical Angle °

Environment Shavings Cooling water Oil / Grease Vacuum Dust

Other Temperature (min. / max.)

End seal With end seal Without end seal

Semi-standard Stainless steel Query (initiator) Power connection on top Front power connection

Other

USAGE NOTE

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USAGE NOTE

INDIVIDUAL

DECLARATION OF INCORPORATION IN TERMS OF THE EC DIRECTIVE 2006/42/EC ON MACHINERY (ANNEX II 1 B)

We hereby declare that our elements meet the following basic requirements of the Machinery Directive 2006/42/EC as an incomplete machine

No.1.1.2., No.1.1.3., No.1.1.5., No.1.3.2, No. 1.3.4, No. 1.3.7, No.1.5.3, No.1.5.4, No.1.5.8., No.1.6.4, No.1.7.1, No.1.7.3, No.1.7.4.

We also declare that the specific technical documents were produced in accordance with Annex VII Part B of this Directive. We undertake to provide the market supervisory bodies with electronic versions of the incomplete machine's special documents via our documentation department should they have reason to request them.

The incomplete machine may only be commissioned if the machine or system in which the incomplete machine is to be installed has been determined to satisfy the conditions of the Machinery Directive 2006/42/EC and the EC Declaration of Conformity has been produced in accordance with Annex II A.



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