



## Linear technology

Clamping and braking elements  
+ for THK profile rail guides

THE KNOW-HOW FACTORY

**THE KNOW-HOW FACTORY**

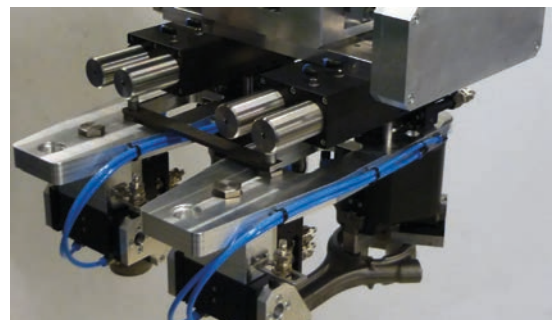
# ZIMMER GROUP COMMITTED TO OUR CUSTOMERS

**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.

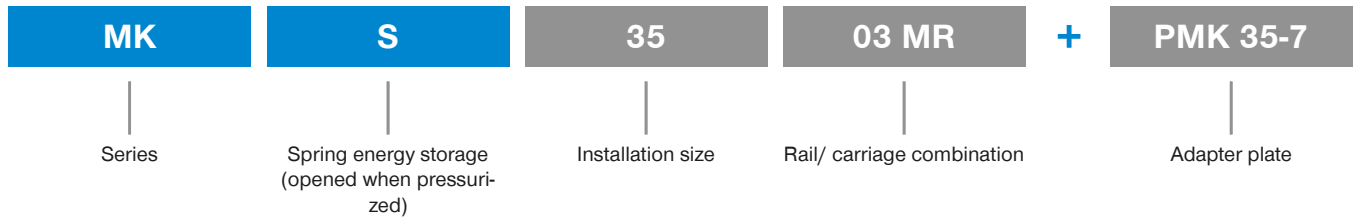
**Style.** We have an interdisciplinary approach to everything we do, resulting in refined process solutions in six technology fields. This applies not just to development but to production. Zimmer Group serves all industries and stands ready to resolve even the most unique and highly individualized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



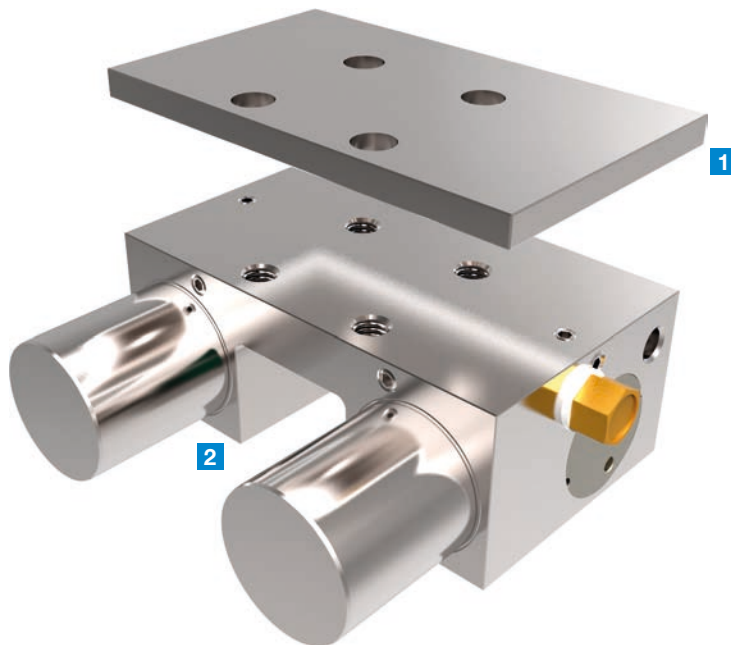
# NUMERICAL CODE EXPLANATION

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



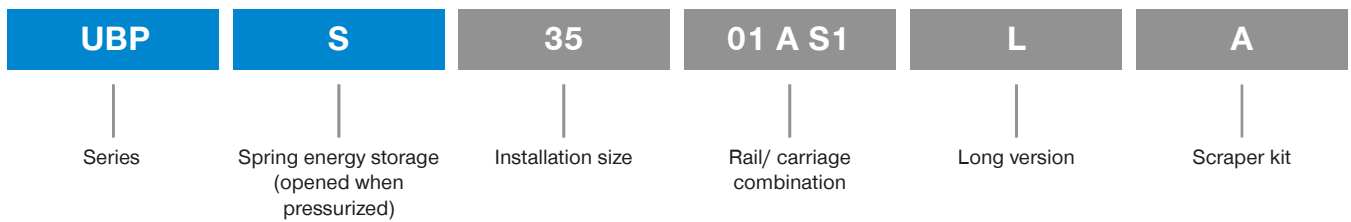
- ▶ The tables on the overview pages contain the order numbers of the elements and, when necessary, the order numbers of the associated adapter plate (accessory).
- ▶ If an adapter plate is required, please provide both order numbers.
- ▶ For dimensions and top view drawings, refer to the respective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

### Example MKS series



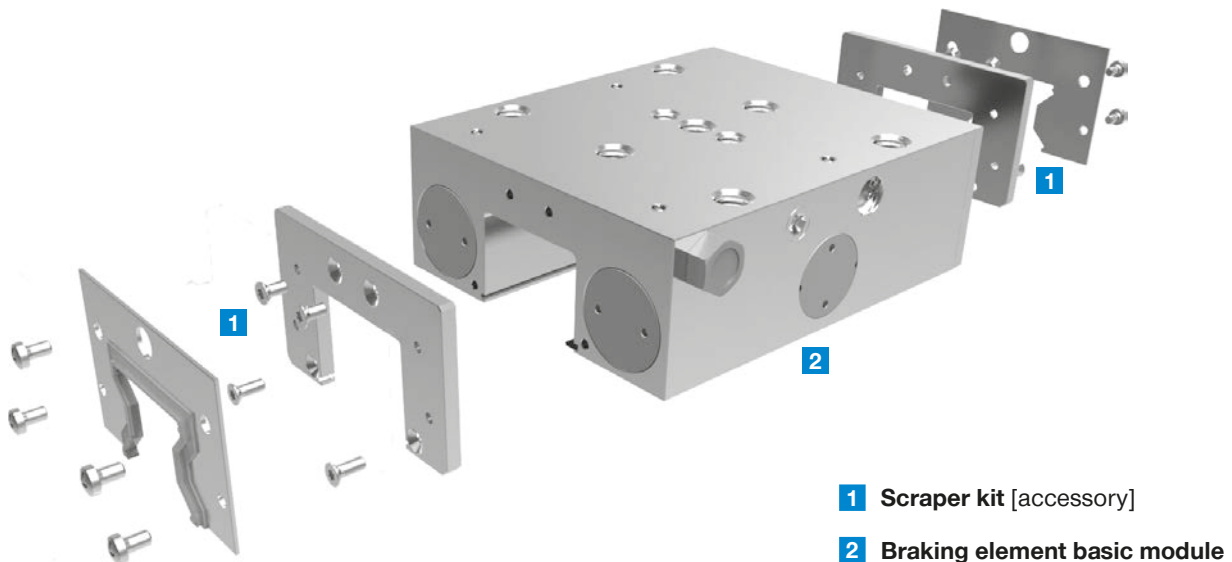
- 1** Adapter plate [Depending on the height of the guide block (dimension D), it may be necessary to order an adapter plate for height compensation.]
- 2** Clamping element basic module

► 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



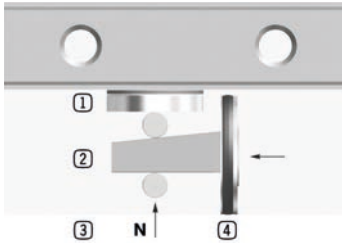
# CLAMPING AND BRAKING ELEMENTS

## TECHNICAL FUNDAMENTALS

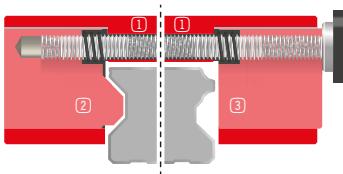
### ▶ CLAMPING, BRAKING, AREAS OF APPLICATION

#### 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)

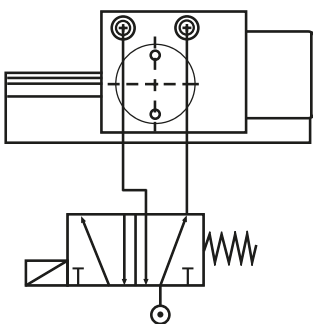


- ▶ The MK/MKS/MBPS/UBPS/LKP/LKPS/LBPS/MKR and MKRS series are constructed with two parallel (synchronized) running wedge-type gears, i.e. the stroke movement of the contact profiles is performed from both sides. Therefore (assuming the proper connection structure), the clamping process is not expected 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](http://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               |
| tR (reaction time)                       | 0,06 s                |
| tA (response time)                       | 0,01 s                |
| m (mass)                                 | 50 kg                 |
| vO (initial speed)                       | 2 m/s                 |
| μG (kinetic friction)                    | 0,06                  |
| μR (static friction)                     | 0,1                   |
| g (weight force)                         | 9,81 m/s <sup>2</sup> |

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

The values for μG and μR are based on test series and on years of industry experience. Nonetheless, divergent ambient conditions can lead to different results. Values tR and tA 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 $S_B$ :

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

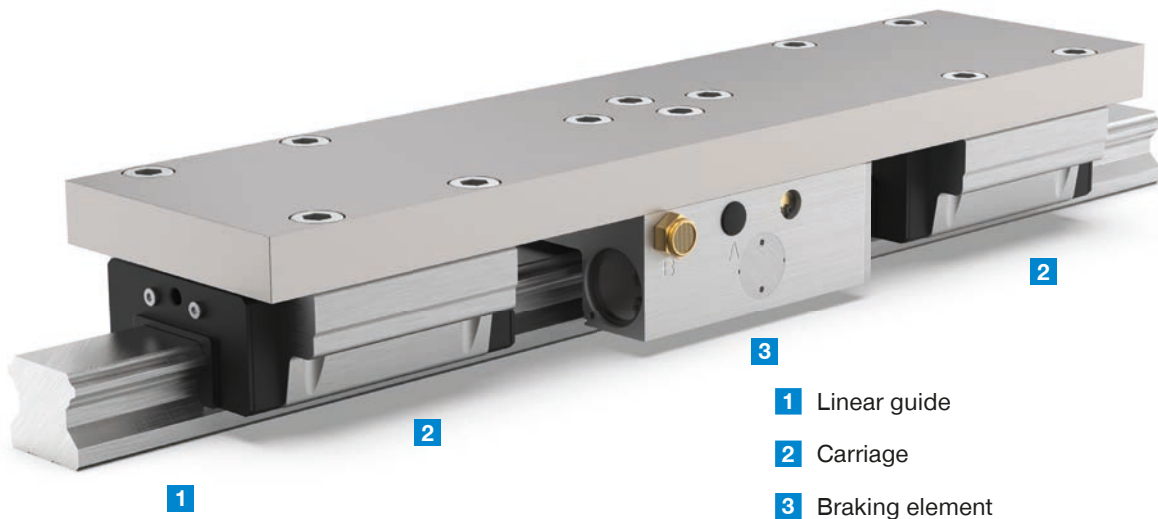
#### ▶ Reaction distance and response distance $S_R$ :

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

#### ▶ 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 $V_{\text{Brake}}$ :

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

#### ► 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 $S_R$ :



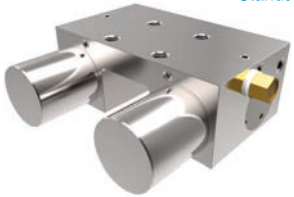

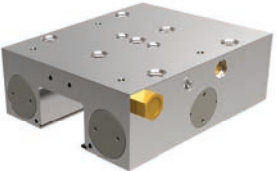





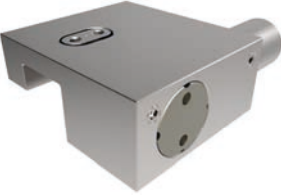
$$S_R = v_0 \times (t_R + t_A) + \frac{1}{2} \times g \times (t_R + t_A)^2$$

$$= 2 \frac{\text{m}}{\text{s}} \times (0,06\text{s} + 0,01\text{s}) + \frac{1}{2} \times 9,81 \frac{\text{m}}{\text{s}^2} \times (0,06\text{s} + 0,01\text{s})^2 = 0,164$$

#### ► Stopping distance $S_H$ :

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

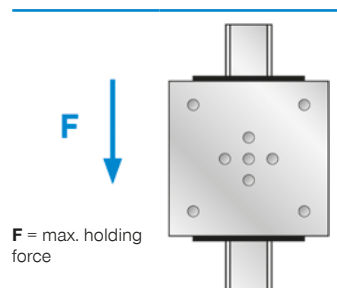
# CLAMPING AND BRAKING ELEMENTS IN OVERVIEW

| PROFILE RAIL GUIDES  |   |   |  |
|--|---|---|--|
| MANUAL   | PNEUMATIC   |   |  |
| CLAMPING   | CLAMPING  |   | CLAMPING AND BRAKING   |
| N  | NO  | NC  | NC   |
| <b>HK</b> Holding force up to 2000 N<br>      | <b>MK</b> Holding force up to 2.250 N<br>    | <b>MKS</b> Holding force up to 3.300 N<br>    | <b>MBPS</b> Holding force up to 4.700 N<br>         |
| Standard   | Standard  | Standard  | Standard   |
|  |   |   | <b>UBPS</b> Holding force up to 7.700(9.200) N<br> |
|  |   |   | Standard   |
|  | <b>LKP</b> Holding force up to 2.500 N<br> | <b>LKPS</b> Holding force up to 1.900 N<br> | <b>LBPS</b> Holding force up to 1.900 N<br>       |
|  | Narrow  | Narrow  | Narrow   |
| <b>MINIHK</b> Holding force up to 300 N<br> | <b>MCP</b> Holding force up to 550 N<br>   | <b>MCPS</b> Holding force up to 700 N<br>   |  |
| 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  |
| <b>KWH</b><br>Holding force up to 46.000 N<br>Standard<br> | <b>KBH</b><br>Holding force up to 46.000 N<br>Standard<br> | <b>LBHS</b><br>Holding force up to 15.000 N<br>Narrow<br> | <b>LKE</b><br>Holding force up to 1.800 N<br>Standard<br> |

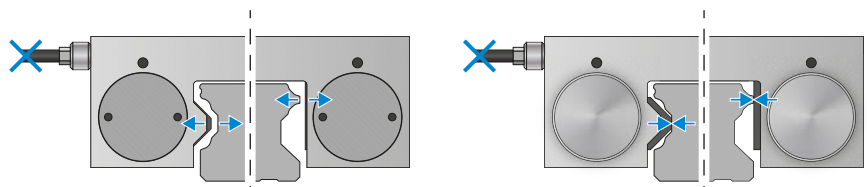
## CIRCULATOR AND SHAFT GUIDES

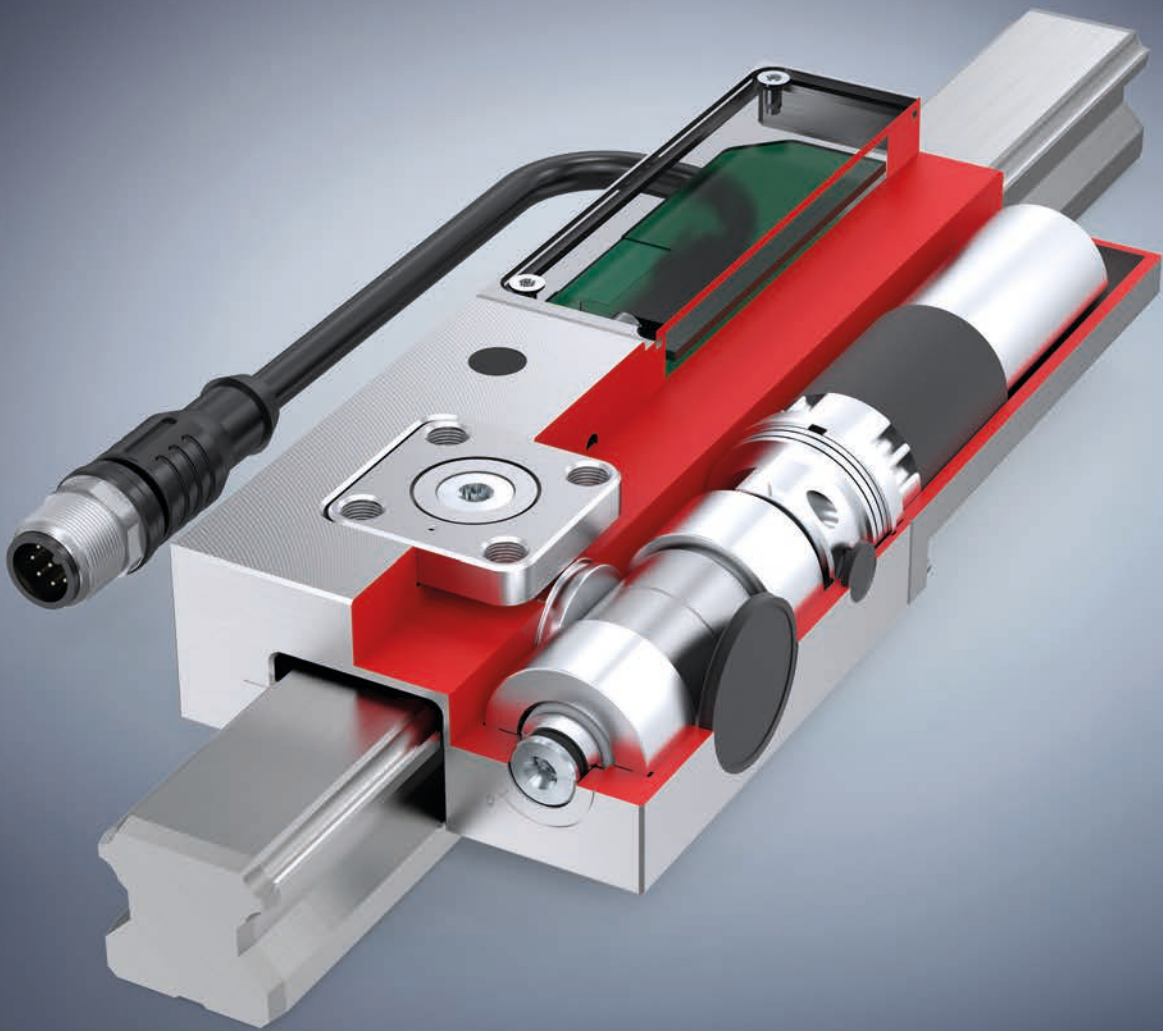
| MANUAL  | PNEUMATIC  |  |  |
|---|--|--|--|
| CLAMPING  | CLAMPING   | CLAMPING   | CLAMPING AND BRAKING   |
| N   | NO   | NC   | NC   |
| <b>HKR</b><br>Holding force up to 2000 N<br>Standard<br> | <b>MKR</b><br>Holding force up to 1.850 N<br>Standard<br> | <b>MKRS</b><br>Holding force up to 1.650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

**N (bistable):**  
remains in current position

**NO (Normally Open):**  
open without pressure

**NC (Normally Closed):**  
closed without pressure





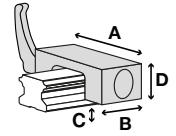
# RAIL TYPES IN OVERVIEW

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

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

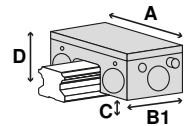
► RAIL TYPE: GSR

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



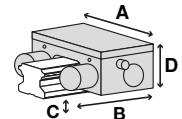
| Rail size | Carriage type | Series HK |                 |                     |        |        |        |        |
|-----------|---------------|-----------|-----------------|---------------------|--------|--------|--------|--------|
|           |               | Order No. | Distance plate* | Holding 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



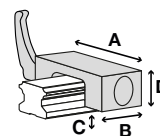
| Rail size | Carriage type | Series MKS |                 |                     |        |        |        |
|-----------|---------------|------------|-----------------|---------------------|--------|--------|--------|
|           |               | Order No.  | Distance plate* | Holding force [N]** | 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

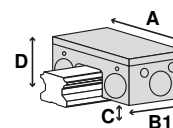
## ► RAIL TYPE: HCR

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



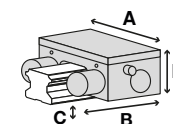
| Rail size | Carriage type   | Series HK   |                 |                     |        |        |        |        |
|-----------|---|-------------|-----------------|---------------------|--------|--------|--------|--------|
|           |   | Order No.   | Distance plate* | Holding force [N]** | 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     |

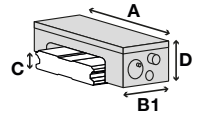
### ► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



| 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     |

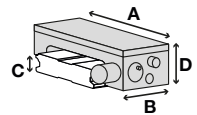
► RAIL TYPE: HRW

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



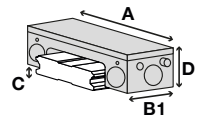
| Rail size | ► Carriage type  | ► Series MCP |                 |                     |        |         |        |        |
|-----------|------------------|--------------|-----------------|---------------------|--------|---------|--------|--------|
|           |                  | Order No.    | Distance 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



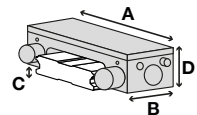
| Rail size | ► Carriage type  | ► Series MCPS |                 |                     |        |        |        |        |
|-----------|------------------|---------------|-----------------|---------------------|--------|--------|--------|--------|
|           |                  | Order No.     | Distance 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



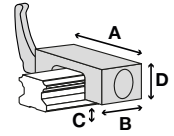
| Rail size | ► Carriage type  | ► Series MKS |                 |                     |        |        |        |
|-----------|------------------|--------------|-----------------|---------------------|--------|--------|--------|
|           |                  | Order No.    | Distance plate* | Holding 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

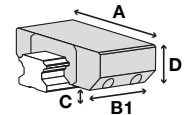
## ► RAIL TYPE: HSR

### ► 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     |

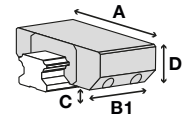
### ► SERIES KBH CLAMPING AND BRAKING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



| 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    |

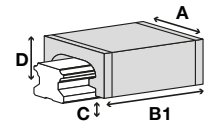
► RAIL TYPE: HSR

► 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 | <b>KWH2501AS1</b> |                 | 2200                | 70     | 92      | 6.5    | 36     |
| 25        | LR, LRM, R, RM, YR, YRM   | <b>KWH2501AS1</b> | 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 | <b>KWH3001AS1</b> |                 | 3000                | 90     | 103.5   | 7      | 42     |
| 30        | LR, LRM, R, RM, YR, YRM   | <b>KWH3001AS1</b> | 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 | <b>KWH3501AS1</b> |                 | 5700                | 100    | 120.5   | 8      | 48     |
| 35        | LR, LRM, R, RM, YR, YRM   | <b>KWH3501AS1</b> | PKW35-7         | 5700                | 100    | 120.5   | 8      | 48     |
| 45        | A, B, CA, CB, HA, HB, LA, LB  | <b>KWH4501AS1</b> |                 | 9900                | 120    | 155     | 10     | 60     |
| 45        | LR, R, YR   | <b>KWH4501AS1</b> | PKW45-10        | 9900                | 120    | 155     | 10     | 60     |
| 55        | A, B, CA, CB, HA, HB, LA, LB  | <b>KWH5501AS1</b> |                 | 13700               | 140    | 184     | 13     | 70     |
| 55        | LR, R, YR   | <b>KWH5501AS1</b> | PKW55-10        | 13700               | 140    | 184     | 13     | 70     |
| 65        | A, B, CA, CB, HA, HB, LA, LB, LR, R, YR                               | <b>KWH6501AS1</b> |                 | 22700               | 170    | 227     | 14     | 90     |

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



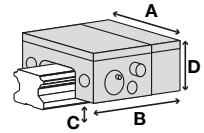
| Rail size | Carriage type   | Series LBHS        |                 |                     |        |         |        |        |
|-----------|---|--------------------|-----------------|---------------------|--------|---------|--------|--------|
|           |   | Order No.          | Distance plate* | 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 | <b>LBHS2001AS2</b> |                 | 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                     | <b>LBHS2501AS2</b> |                 | 2000                | 47.6   | 130     | 7.5    | 36     |
| 25        | LR, LRM, R, RM, YR, YRM   | <b>LBHS2501AS2</b> | 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                     | <b>LBHS3001AS2</b> |                 | 3500                | 59.6   | 180     | 7      | 42     |
| 30        | LR, LRM, R, RM, YR, YRM   | <b>LBHS3001AS2</b> | 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                     | <b>LBHS3501AS2</b> |                 | 5000                | 69.5   | 190     | 7.5    | 48     |
| 35        | LR, LRM, R, RM, YR, YRM   | <b>LBHS3501AS2</b> | PLBH35-7        | 5000                | 69.5   | 190     | 7.5    | 55     |
| 45        | A, B, CA, CB, HA, HB, LA, LB  | <b>LBHS4501AS2</b> |                 | 7000                | 85.6   | 210     | 10     | 60     |
| 45        | LR, R, YR   | <b>LBHS4501AS2</b> | PLBH45-10       | 7000                | 85.6   | 210     | 10     | 70     |
| 55        | A, B, CA, CB, HA, HB, LA, LB  | <b>LBHS5501AS2</b> |                 | 11500               | 99.5   | 256     | 13     | 70     |
| 55        | LR, R, YR   | <b>LBHS5501AS2</b> | PLBH55-10       | 11500               | 99.5   | 256     | 13     | 80     |
| 65        | A, B, CA, CB, HA, HB, LA, LB, LR, R, YR   | <b>LBHS6501AS2</b> |                 | 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

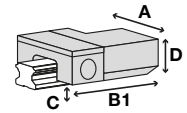
## ► RAIL TYPE: HSR

### ► 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     |

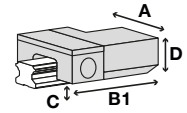
### ► SERIES LCE CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



| 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         |

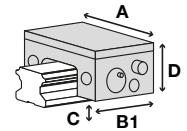
► RAIL TYPE: HSR

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



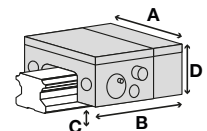
| Rail size | Carriage type   | Series LKE |                 |                     |         |        |        |
|-----------|---|------------|-----------------|---------------------|---------|--------|--------|
|           |   | Order No.  | Distance plate* | Holding force [N]** | B1 [mm] | C [mm] | 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



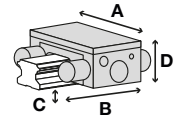
| Rail size | Carriage type   | Series LKPS   |                 |                     |        |        |        |        |
|-----------|---|---------------|-----------------|---------------------|--------|--------|--------|--------|
|           |   | Order No.     | Distance plate* | Holding force [N]** | 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

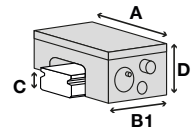
## ► RAIL TYPE: HSR

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



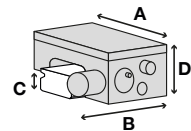
| Rail size | Carriage type   | Series MBPS |                 |                     |        |        |        |        |
|-----------|---|-------------|-----------------|---------------------|--------|--------|--------|--------|
|           |   | Order No.   | Distance plate* | Holding force [N]** | 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



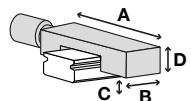
| Rail size | Carriage type | Series MCP |                 |                     |        |         |        |        |
|-----------|---------------|------------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No.  | Distance plate* | 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     |

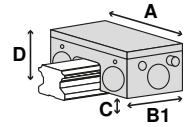
### ► SERIES MINIHK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



| 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     |

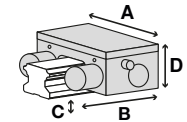
► RAIL TYPE: HSR

► 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



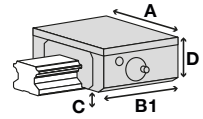
| Rail size | Carriage type   | Series MKS |                 |                     |        |        |        |
|-----------|---|------------|-----------------|---------------------|--------|--------|--------|
|           |   | Order No.  | Distance plate* | Holding force [N]** | A [mm] | B [mm] | D [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

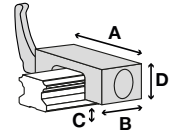
### ► SERIES UBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



| 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     |

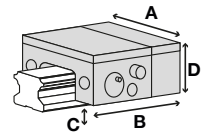
► RAIL TYPE: HSV

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



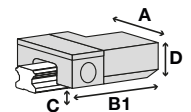
| Rail size | Carriage type | Series HK |                 |                     |        |        |        |        |
|-----------|---------------|-----------|-----------------|---------------------|--------|--------|--------|--------|
|           |               | Order No. | Distance plate* | Holding 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



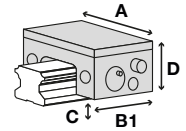
| Rail size | Carriage type | Series LCE   |                 |
|-----------|---------------|--------------|-----------------|
|           |               | Order No.    | Distance plate* |
| 15        | C             | LCE1501QS1-A |                 |
| 15        | R             | LCE1501QS1-A | PMK15-4         |
| 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

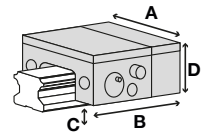
## ► RAIL TYPE: HSV

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



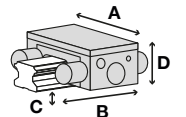
| Rail size | Carriage type | Series LKP   |                 |                     |        |         |        |        |
|-----------|---------------|--------------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No.    | Distance plate* | 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     |

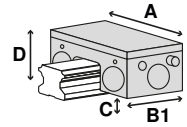
### ► SERIES MBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



| 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     |

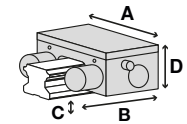
► RAIL TYPE: HSV

► 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



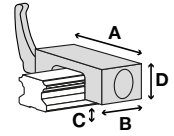
| Rail size | Carriage type | Series MKS |                 |                     |        |        |        |
|-----------|---------------|------------|-----------------|---------------------|--------|--------|--------|
|           |               | Order No.  | Distance plate* | Holding force [N]** | 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

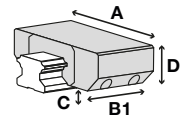
## ► RAIL TYPE: NR

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



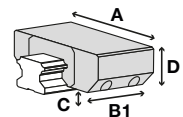
| Rail size | Carriage type             | Series HK |                 |                     |        |        |        |        |
|-----------|---------------------------|-----------|-----------------|---------------------|--------|--------|--------|--------|
|           |                           | 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    |

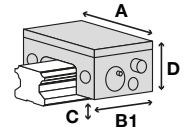
### ► SERIES KWH CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



| 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     |

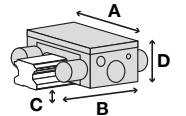
► RAIL TYPE: NR

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



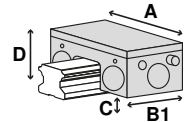
| Rail size | ► Carriage type           | ► Series LKP |                 |
|-----------|---------------------------|--------------|-----------------|
|           |                           | Order No.    | Distance plate* |
| 25        | XA, XB, XLA, XLB, XLR, XR | ⊙            |                 |
| 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



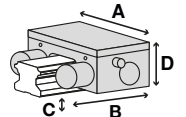
| Rail size | ► Carriage type     | ► Series MBPS |                 |                     |        |        |        |        |
|-----------|---------------------|---------------|-----------------|---------------------|--------|--------|--------|--------|
|           |                     | Order No.     | 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



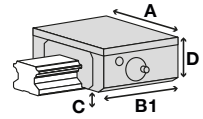
| Rail size | ► Carriage type           | ► Series MKS |                 |                     |        |        |        |
|-----------|---------------------------|--------------|-----------------|---------------------|--------|--------|--------|
|           |                           | Order No.    | 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

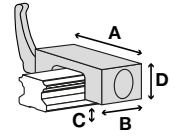
► SERIES UBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



| 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     |

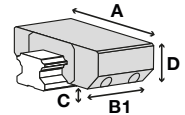
► RAIL TYPE: NRS

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



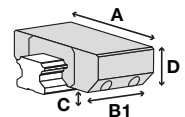
| Rail size | Carriage type             | Series HK |                 |                     |        |        |        |        |
|-----------|---------------------------|-----------|-----------------|---------------------|--------|--------|--------|--------|
|           |                           | 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



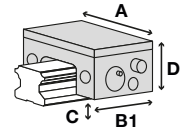
| Rail size | Carriage type             | Series KWH |                 |                     |        |         |        |        |
|-----------|---------------------------|------------|-----------------|---------------------|--------|---------|--------|--------|
|           |                           | 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

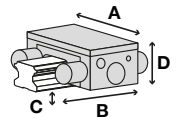
## ► RAIL TYPE: NRS

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



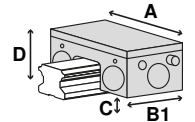
| Rail size | ► Carriage type           | ► Series LKP |                 |
|-----------|---------------------------|--------------|-----------------|
|           |                           | Order No.    | Distance plate* |
| 25        | XA, XB, XLA, XLB, XLR, XR | ⊕            |                 |
| 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



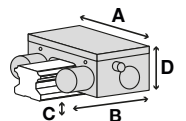
| Rail size | ► Carriage type     | ► Series MBPS |                 |                     |        |        |        |        |
|-----------|---------------------|---------------|-----------------|---------------------|--------|--------|--------|--------|
|           |                     | Order No.     | 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     |

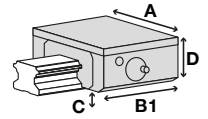
### ► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



| 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



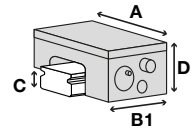
| Rail size | ▶ Carriage type     | ▶ Series UBPS |                  |                     |        |         |        |        |
|-----------|---------------------|---------------|------------------|---------------------|--------|---------|--------|--------|
|           |                     | Order 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

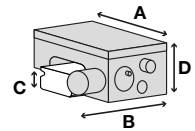
## ► RAIL TYPE: RSR

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



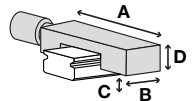
| Rail size | Carriage type | Series MCP |                 |                     |        |         |        |        |
|-----------|---------------|------------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No.  | Distance plate* | 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     |

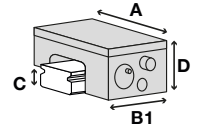
### ► SERIES MINIHK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



| 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     |

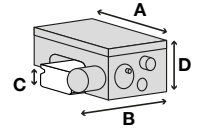
► RAIL TYPE: RSR-W

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



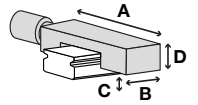
| ► Carriage type |             | ► Series MCP |                  |                     |        |         |        |        |
|-----------------|-------------|--------------|------------------|---------------------|--------|---------|--------|--------|
| Rail size       |             | Order No.    | 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



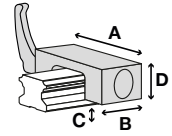
| ► Carriage type |                  | ► Series miniHK |                  |                     |        |        |        |        |
|-----------------|------------------|-----------------|------------------|---------------------|--------|--------|--------|--------|
| Rail size       |                  | 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)

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 NC = Elements are opened when pressurized

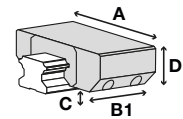
## ► RAIL TYPE: SHS

### ► 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     |

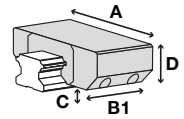
### ► SERIES KBH CLAMPING AND BRAKING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



| 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     |

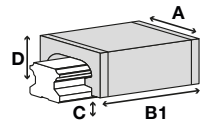
► RAIL TYPE: SHS

► 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



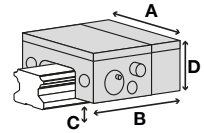
| Rail size | Carriage type  | Series LBHS |                 |                     |        |         |        |        |
|-----------|--|-------------|-----------------|---------------------|--------|---------|--------|--------|
|           |  | Order No.   | Distance plate* | Holding force [N]** | 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)

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

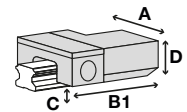
## ► RAIL TYPE: SHS

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



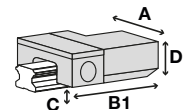
| Rail size | Carriage type | Series LBPS   |                 |                     |        |        |        |        |
|-----------|---------------|---------------|-----------------|---------------------|--------|--------|--------|--------|
|           |               | Order No.     | Distance plate* | 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         |

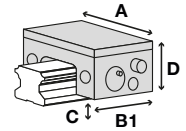
### ► SERIES LKE CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



| 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     |

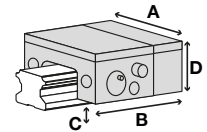
► RAIL TYPE: SHS

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



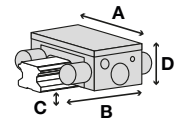
| Rail size | Carriage type | Series LKP   |                 |                     |        |         |        |        |
|-----------|---------------|--------------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No.    | Distance plate* | 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



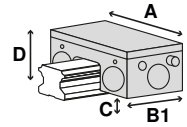
| Rail size | Carriage type | Series MBPS |                 |                     |        |        |        |        |
|-----------|---------------|-------------|-----------------|---------------------|--------|--------|--------|--------|
|           |               | Order No.   | Distance plate* | 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

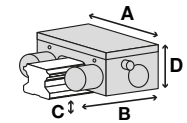
## ► RAIL TYPE: SHS

### ► 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     |

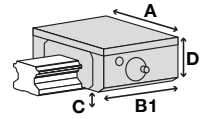
### ► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



| 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



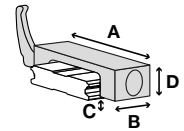
| Rail size | Carriage type | Series UBPS         |                 |                     |        |         |        |        |
|-----------|---------------|---------------------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No.   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

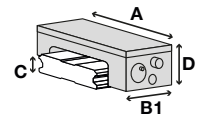
## ► RAIL TYPE: SHW

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



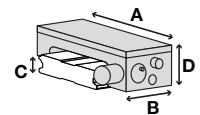
| Rail size | Carriage type | Series HK |                 |                     |        |        |        |        |
|-----------|---------------|-----------|-----------------|---------------------|--------|--------|--------|--------|
|           |               | Order No. | Distance plate* | Holding 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



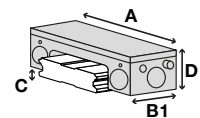
| Rail size | Carriage type | Series MCP |                 |                     |        |         |        |        |
|-----------|---------------|------------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No.  | Distance plate* | 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     |

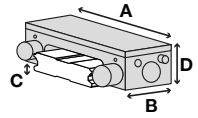
### ► SERIES MK CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



| 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



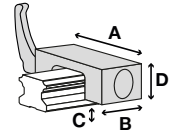
| Rail size | ► Carriage type | ► Series MKS |                 |                     |        |        |        |
|-----------|-----------------|--------------|-----------------|---------------------|--------|--------|--------|
|           |                 | Order No.    | Distance plate* | Holding 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  
 NO = Elements are closed when pressurized  
 NC = Elements are opened when pressurized

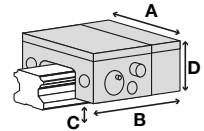
## ► RAIL TYPE: SR

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



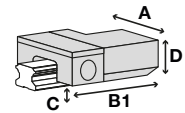
| Rail size | Carriage type                  | Series HK |                 |                     |        |        |        |        |
|-----------|--------------------------------|-----------|-----------------|---------------------|--------|--------|--------|--------|
|           |                                | 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



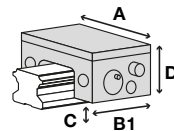
| Rail size | Carriage type                  | Series LBPS   |                 |                     |        |        |        |        |
|-----------|--------------------------------|---------------|-----------------|---------------------|--------|--------|--------|--------|
|           |                                | 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         |

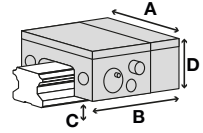
### ► SERIES LKP CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



| 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                          | Ⓞ            |                 |                     |        |         |        |        |

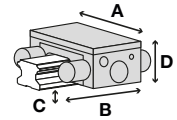
► RAIL TYPE: SR

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



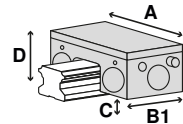
| Rail size | ► Carriage type                | ► Series LKPS |                 |                     |        |        |        |        |
|-----------|--------------------------------|---------------|-----------------|---------------------|--------|--------|--------|--------|
|           |                                | 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



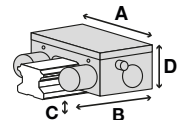
| Rail size | ► Carriage type                | ► Series MBPS |                 |                     |        |        |        |        |
|-----------|--------------------------------|---------------|-----------------|---------------------|--------|--------|--------|--------|
|           |                                | 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



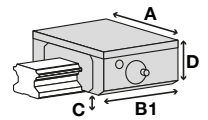
| Rail size | ► Carriage type                | ► Series MKS |                 |                     |        |        |        |
|-----------|--------------------------------|--------------|-----------------|---------------------|--------|--------|--------|
|           |                                | 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)

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

**▶ RAIL TYPE: SR**

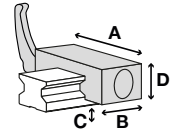
**▶ SERIES UBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE**



| 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     |

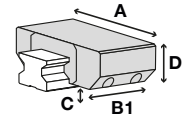
► RAIL TYPE: SRG

► 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



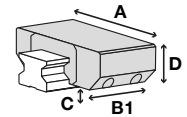
| Rail size | Carriage type | Series KBH  |                 |                     |        |         |        |        |
|-----------|---------------|-------------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No.   | Distance plate* | 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

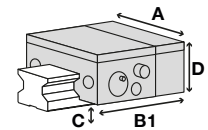
## ► RAIL TYPE: SRG

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



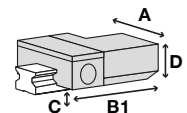
| Rail size | Carriage type | Series KWH |                 |                     |        |         |        |        |
|-----------|---------------|------------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No.  | Distance plate* | 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     |

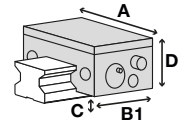
### ► SERIES LCE CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



| 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         |

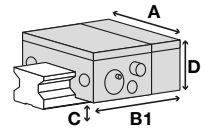
► RAIL TYPE: SRG

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



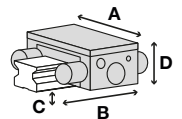
| Rail size | Carriage type | Series LKP   |                 |                     |        |         |        |        |
|-----------|---------------|--------------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No.    | Distance plate* | 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



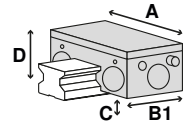
| Rail size | Carriage type | Series MBPS |                 |                     |        |        |        |        |
|-----------|---------------|-------------|-----------------|---------------------|--------|--------|--------|--------|
|           |               | Order No.   | Distance plate* | 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

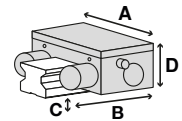
## ► RAIL TYPE: SRG

### ► 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     |

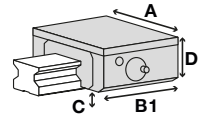
### ► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



| 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



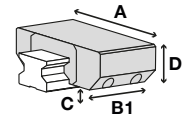
| Rail size | Carriage type | Series UBPS         |                 |                     |        |         |        |        |
|-----------|---------------|---------------------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No.   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

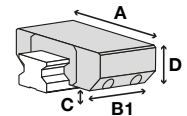
## ► RAIL TYPE: SRN

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



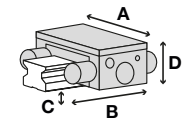
| ► Carriage type |        | ► Series KBH |                 |                     |        |         |        |        |
|-----------------|--------|--------------|-----------------|---------------------|--------|---------|--------|--------|
| Rail size       |        | Order No.    | Distance plate* | 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



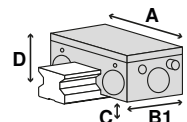
| ► Carriage type |        | ► Series KWH |                 |                     |        |         |        |        |
|-----------------|--------|--------------|-----------------|---------------------|--------|---------|--------|--------|
| Rail size       |        | Order No.    | Distance plate* | 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



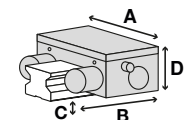
| ► Carriage type |              | ► Series MBPS |                 |                     |        |        |        |        |
|-----------------|--------------|---------------|-----------------|---------------------|--------|--------|--------|--------|
| Rail size       |              | Order No.     | 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     |

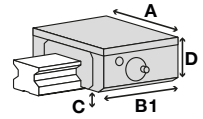
### ► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



| ► 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



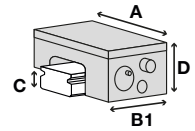
| Rail size | ► Carriage type | ► Series UBPS |                  |                     |        |         |        |        |
|-----------|-----------------|---------------|------------------|---------------------|--------|---------|--------|--------|
|           |                 | Order No.     | Distance 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  
 NO = Elements are closed when pressurized  
 NC = Elements are opened when pressurized

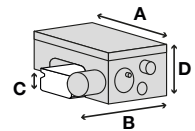
## ► RAIL TYPE: SRS

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



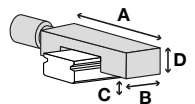
| Rail size | Carriage type | Series MCP |                 |                     |        |         |        |        |
|-----------|---------------|------------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No.  | Distance plate* | 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     |

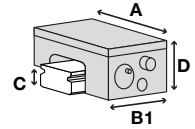
### ► SERIES MINIHK CLAMPING N (BISTABLE) REMAINS IN CURRENT POSITION



| 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     |

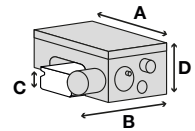
► RAIL TYPE: SRS-W

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



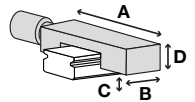
| Rail size | Carriage type | Series MCP |                 |                     |        |         |        |        |
|-----------|---------------|------------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No.  | Distance plate* | 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



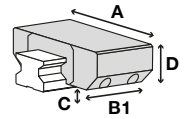
| Rail size | Carriage type | Series miniHK |                 |                     |        |        |        |        |
|-----------|---------------|---------------|-----------------|---------------------|--------|--------|--------|--------|
|           |               | Order No.     | Distance plate* | 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  
 NO = Elements are closed when pressurized  
 NC = Elements are opened when pressurized

▶ RAIL TYPE: SRW

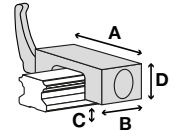
▶ SERIES KBH CLAMPING AND BRAKING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



| ▶ 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     |

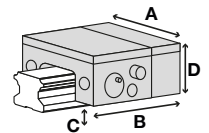
► RAIL TYPE: SSR

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



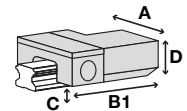
| Rail size | Carriage type                         | Series HK |                 |                     |        |        |        |        |
|-----------|---------------------------------------|-----------|-----------------|---------------------|--------|--------|--------|--------|
|           |                                       | 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



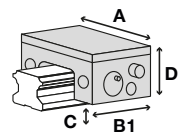
| Rail size | Carriage type                         | Series LBPS   |                 |                     |        |        |        |        |
|-----------|---------------------------------------|---------------|-----------------|---------------------|--------|--------|--------|--------|
|           |                                       | 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



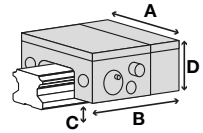
| Rail size | Carriage type                         | Series LKP   |                 |                     |        |         |        |        |
|-----------|---------------------------------------|--------------|-----------------|---------------------|--------|---------|--------|--------|
|           |                                       | 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

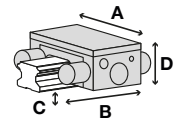
## ► RAIL TYPE: SSR

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



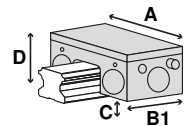
| Rail size | Carriage type                         | Series LKPS   |                 |                     |        |        |        |        |
|-----------|---------------------------------------|---------------|-----------------|---------------------|--------|--------|--------|--------|
|           |                                       | 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



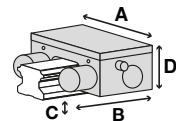
| Rail size | Carriage type                         | Series MBPS |                 |                     |        |        |        |        |
|-----------|---------------------------------------|-------------|-----------------|---------------------|--------|--------|--------|--------|
|           |                                       | 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     |

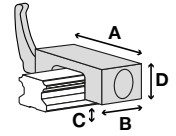
### ► SERIES MKS CLAMPING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



| 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     |

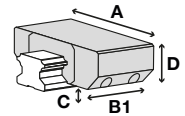
► RAIL TYPE: SVR

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



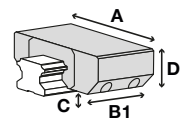
| Rail size | Carriage type | Series HK |                 |                     |        |        |        |        |
|-----------|---------------|-----------|-----------------|---------------------|--------|--------|--------|--------|
|           |               | Order No. | Distance plate* | Holding 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



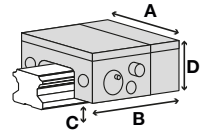
| Rail size | Carriage type | Series KWH |                 |                     |        |         |        |        |
|-----------|---------------|------------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No.  | Distance plate* | 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

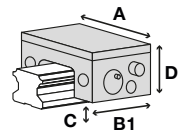
## ► RAIL TYPE: SVR

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



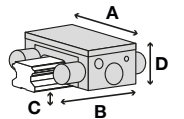
| Rail size | Carriage type | Series LBPS   |                 |                     |        |        |        |        |
|-----------|---------------|---------------|-----------------|---------------------|--------|--------|--------|--------|
|           |               | Order No.     | Distance plate* | 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     |

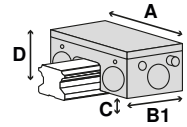
### ► SERIES MBPS CLAMPING AND BRAKING NC (NORMALLY CLOSED) CLOSED WITHOUT PRESSURE



| 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     |

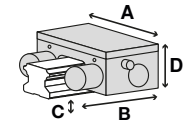
► RAIL TYPE: SVR

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



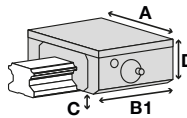
| Rail size | Carriage type | Series MK |                 |                     |        |         |        |        |
|-----------|---------------|-----------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No. | Distance plate* | Holding 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



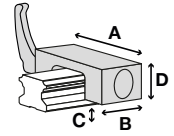
| Rail size | Carriage type | Series UBPS  |                 |                     |        |         |        |        |
|-----------|---------------|--------------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No.    | Distance plate* | 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

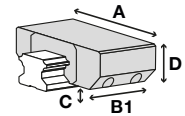
## ► RAIL TYPE: SVS

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



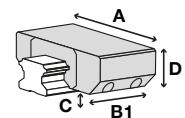
| Rail size | Carriage type | Series HK |                 |                     |        |        |        |        |
|-----------|---------------|-----------|-----------------|---------------------|--------|--------|--------|--------|
|           |               | Order No. | Distance plate* | Holding 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     |

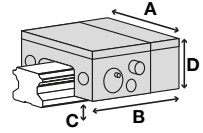
### ► SERIES KWH CLAMPING NO (NORMALLY OPEN) OPEN WITHOUT PRESSURE



| 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     |

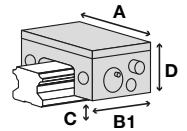
► RAIL TYPE: SVS

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



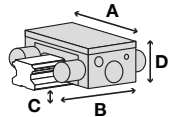
| Rail size | Carriage type | Series LBPS   |                 |                     |        |        |        |        |
|-----------|---------------|---------------|-----------------|---------------------|--------|--------|--------|--------|
|           |               | Order No.     | Distance plate* | 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



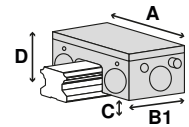
| Rail size | Carriage type | Series MBPS |                 |                     |        |        |        |        |
|-----------|---------------|-------------|-----------------|---------------------|--------|--------|--------|--------|
|           |               | Order No.   | Distance plate* | 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

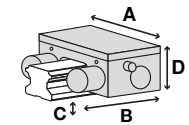
## ► RAIL TYPE: SVS

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



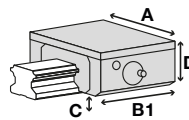
| Rail size | Carriage type | Series MK |                 |                     |        |         |        |        |
|-----------|---------------|-----------|-----------------|---------------------|--------|---------|--------|--------|
|           |               | Order No. | Distance plate* | Holding 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  +/-  $\mu$ m

### 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

## GENERAL

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# USAGE NOTE

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### **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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