



Clamping and braking elements for linear guides

MK | MKR | MB | BW | TK | SB | AU | KW | KB | MKE | MBES | HK | miniHK | HKR

ZIMMER [®]
TECHNISCHE WERKSTÄTTEN

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NEW:

- **MBES Construction series**
- **SBPS Construction series**
- **miniHK**



A new and reliable approach for use in linear positioning applications:

Everything about Zimmer®

Clamping and Braking Elements.

All Zimmer products have been thoroughly developed and tested for tough, industrial applications. We work hard to assure that each step in the design, pre-production and final assembly meets our quality standard.

Process reliability is audited annually by TUV certified engineers to the ISO 9001 standard. Our construction series shows a lot of special characteristics which are typical for all Zimmer developments.

Be sure of quality and reliability !

Zimmer clamping and braking elements offer a new and innovative approach for stopping, holding and positioning applications using linear guide rail systems. A variety of actuation types allow you to power with either pneumatic, hydraulic, electric or manual controls.

- **Small size with incredible holding force**
- **No relative movement for the workpiece**
- **No active clamping forces on the guide carriage**
- **Controllable and adjustable**
- **High positioning accuracy**
- **High rigidity and long cycle-life achieved**
- **Easy to install**
- **Excellent value**
- **Custom models are available upon request**
- **Zimmers own Special friction-coating for brake lining material is proven for industrial applications with extra-long cycle life**

One word about our staff: Qualified and motivated personnel are the guarantors of our Know-Hows. They secure the constant high quality of our products. As well, we are certified by DIN EN ISO 9001.

We would be very pleased to service your clamping and braking needs. If you are in our vicinity, please do not hesitate to visit us.



Product range

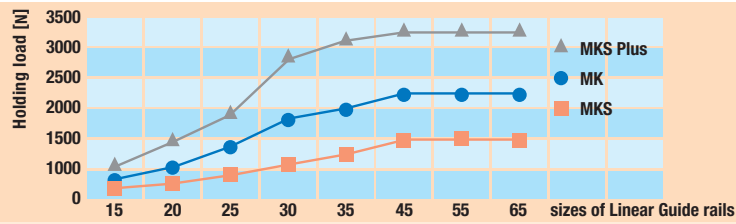
		Features	Pressure Medium	Spring-loaded	Suitable for braking
	MK MKS	<ul style="list-style-type: none"> • Compact design • Precise positioning 	pneumatic	● (MKS)	
	MKR MKRS	<ul style="list-style-type: none"> • Suitable for all current rod-type guides 	pneumatic	● (MKRS)	
	MB	<ul style="list-style-type: none"> • High holding loads • Short reaction times • Compact design 	pneumatic	●	Brake
	BW	<ul style="list-style-type: none"> • Heavy load type • High holding loads • Short reaction times • locating shoulder 	pneumatic	●	Brake
	TK	<ul style="list-style-type: none"> • Super-heavy load type • Highest holding loads • Short reaction times • Locating shoulder 	pneumatic	●	Brake
	SB	<ul style="list-style-type: none"> • High holding loads • Short reaction times • Locating shoulder • narrow, high construction form 	pneumatic	●	Brake
	AU	<ul style="list-style-type: none"> • Clamping for miniature guiding systems • Asymmetrical arrangement 	pneumatic	●	

pneumatic elements

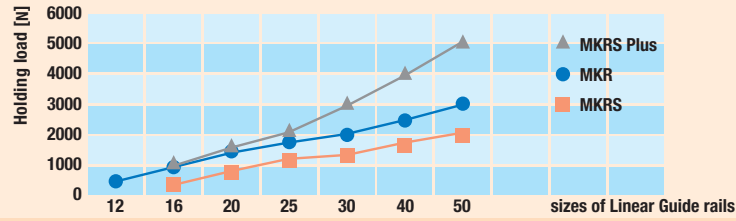
Compatible with Pressure range
DIN 645 max. 6 bar

Technical data

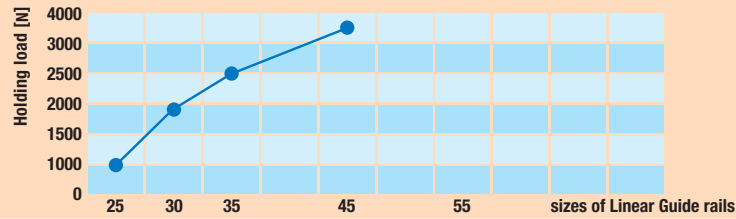
pneumatic
max. 6 bar



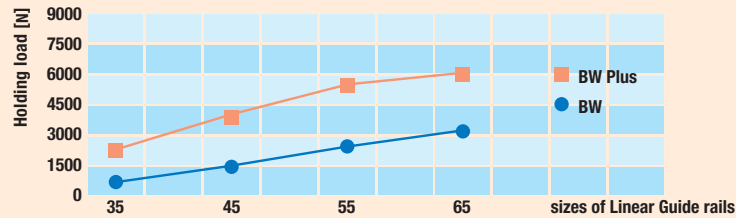
pneumatic
max. 6 bar



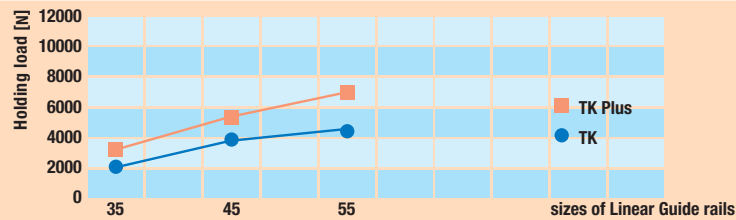
pneumatic
max. 6 bar



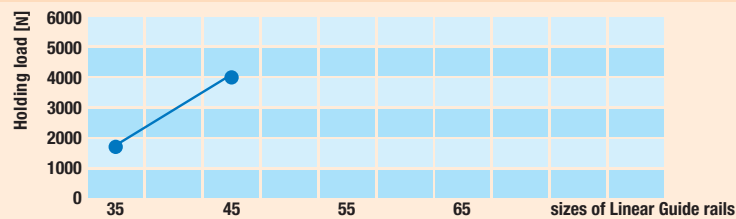
pneumatic
max. 6 bar



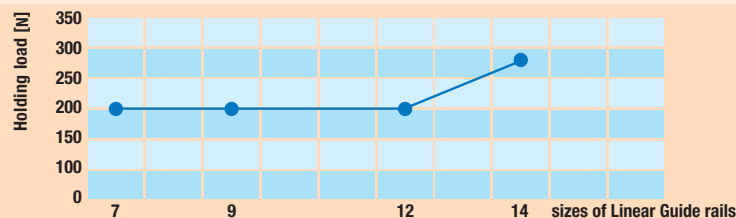
pneumatic
max. 6 bar




pneumatic
max. 8 bar



pneumatic
max. 6 bar



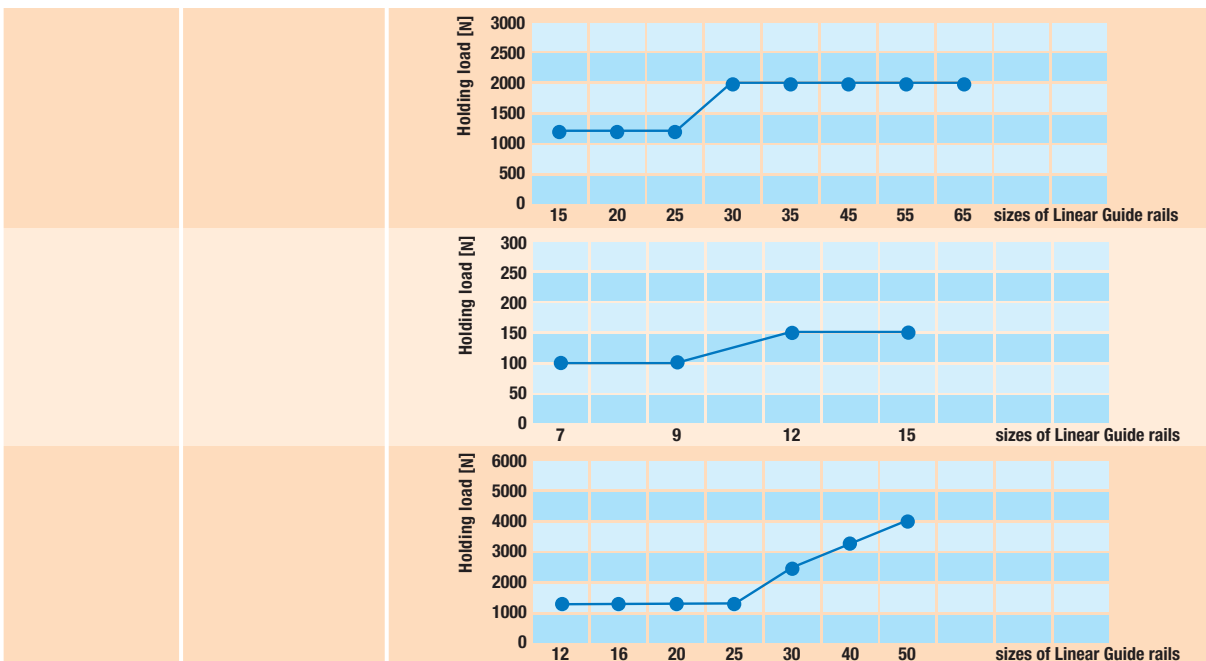
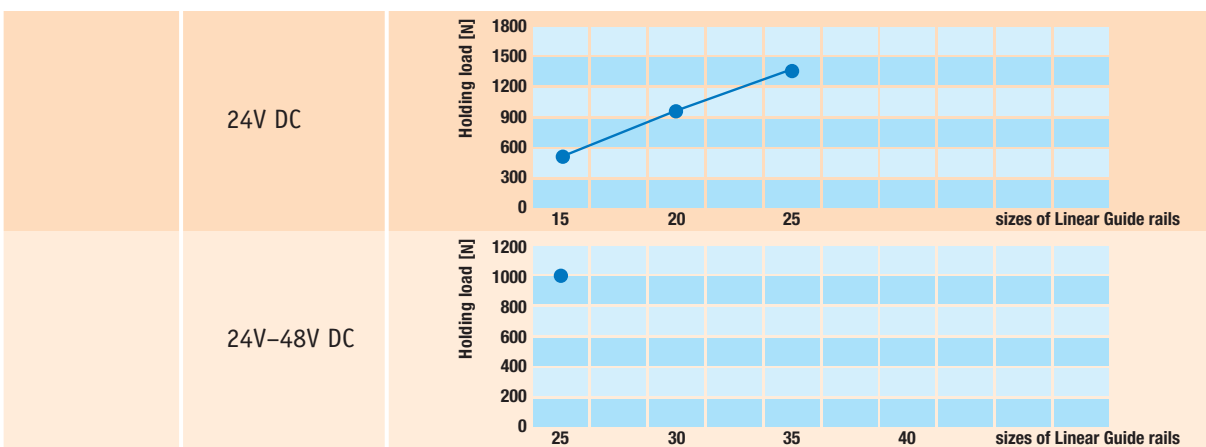
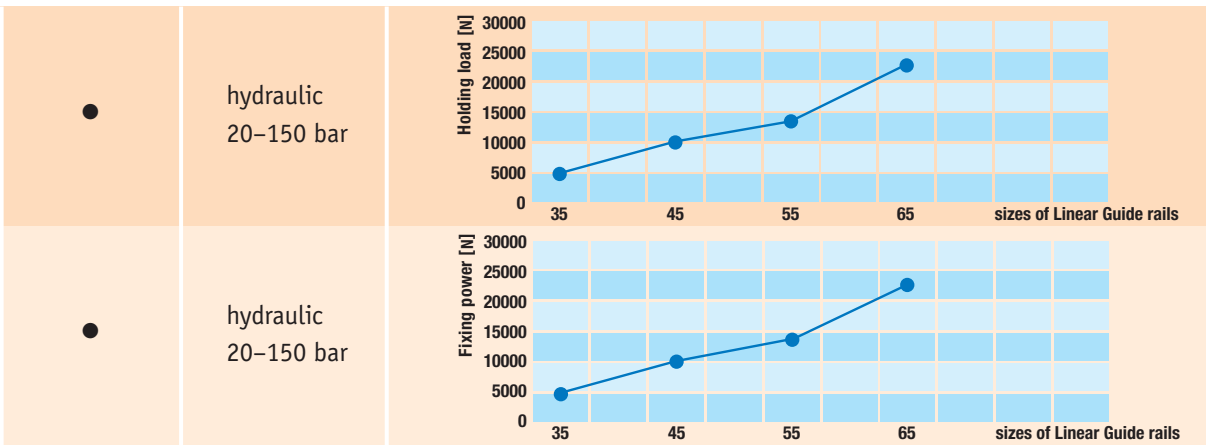
Product range

		Features	Pressure Medium	Spring-loaded	Suitable for braking
	KW	<ul style="list-style-type: none"> • Super-heavy load type • No oil leakage • contact areas with large surfaces • Locating shoulder 	hydraulic		
	KB	<ul style="list-style-type: none"> • Super-heavy load type • No oil leakage • Special friction lining suitable for braking • Locating shoulder 	hydraulic		brake
	MKE	<ul style="list-style-type: none"> • Compact design • Precise positioning • self-locking 	electric		
	MBES	<ul style="list-style-type: none"> • very short reaction times • Precise positioning • Triggering by power drop 	electric	•	brake
	HK	<ul style="list-style-type: none"> • Simple and inexpensive • Compact 	manual		
	mini HK	<ul style="list-style-type: none"> • Manual clamping for miniature linear guides • supporting forces up to 150N 	manual		
	HKR	<ul style="list-style-type: none"> • Suitable for all current rod-type guides 	manual		

hydraulic, electric and manual elements

Compatible with
DIN 645

Technical data



Clamping, accuracy, areas of use

All clamping elements in the series MK / MBPS / BWPS / TKPS / AUPS / KBH and HK are mounted on floating bearings, which means that the lifting movements of the contact profiles can be carried out from either side. Relative movements resulting from the clamping process do not occur. Care must be taken to ensure the connection design is correct.

The abrasion-free connection between the clamping element and the linear guide is created at the free surfaces of the guide rails. Series MK / MKS / AUPS/ KWH and HK are designed exclusively for static clamping operations. Because they use the appropriate contact profiles, Series MBPS/ BWPS / TKPS / KBH / MBES are suitable for dynamic use (brakes).

Pneumatic connections, PLUS connection

Clean and lubricated compressed air is the pressure medium for the pneumatic elements. The prescribed filter size is 25 µm.

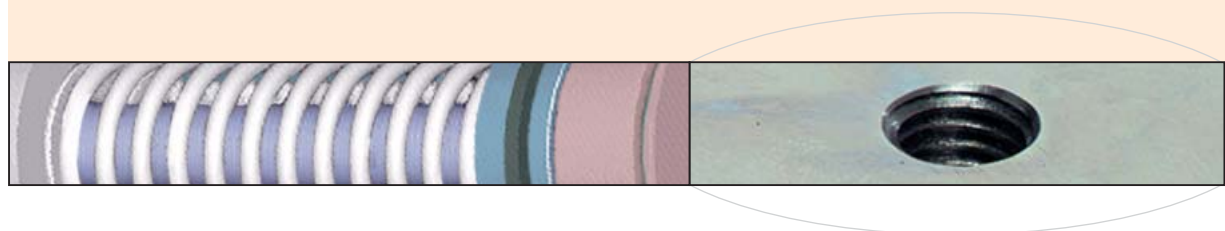
For sizes up to 20, air supply must be 4mm tube or greater. For sizes over 20, air supply must be 6mm tube or greater. Smaller cross-sections adversely reduce the response and reaction times of the elements. The feed line should be kept as short as possible. In principle, all conventional pneumatic valves are suitable.

The response time of the corresponding valve should be determined from the respective manufacturer, in particular when the valve is employed as a brake or a safety device against falling. For use as PLUS version we recommend pneumatic valves free of overflow or for example 5/3 way valves (with unpressurized neutral position). When valves are used that are not free of overflow, overflow can occur at the piston seals when they are activated.

The pneumatic spring-loaded elements MKS/BWPS/TKPS can be pressurized with air (also called PLUS air) on the rod-side. This can increase the holding load up to 2.5 times.

Hydraulic connections

The hydraulic clamping elements are prefilled with HLP 46 at the factory. The hydraulic connection is attached at both sides. One connection is sufficient for admission. Special care has to be taken when exposing the rigid and flexible hydraulic inlet pipes to air, since airlocks can damage the sealing elements.



Connection design, installation of the clamping elements

To avoid adverse effects such as permanent rubbing on the linear guide, the connection must be designed according to the load taken and the requirements made. Any inclination of the exactly aligned clamping elements can cause rubbing and wear of the linear guide rails. The factory preadjustment is adapted precisely to the linear guide and must not be altered during assembly. For assembling the main and secondary guide rails please follow exactly the instructions of the respective manufacturer.

All spring-loaded elements have internal mechanisms that will be damaged if operated without limiting the stroke of the contact profiles. They are shipped with stroke-limiting devices. When mounting, supply air pressure to the port and install on the guide rail before releasing air pressure. CAUTION: DO NOT operate without either the stroke-limiting device or guide rail present as damage to the element will occur.

In applications with very heavy loads, the number of clamping elements should be split equally on both rail guides to ensure the rigidity of the whole construction. For further informations see www.zimmer-gmbh.com

Lubrication

If the prescribed pressure medium is used, later lubrication will not be necessary.

Surface protection

All clamping housings made of steel are chemically nickled and thus have limited rust protection. Parts made from aluminium are chemically nickled or hard-anodized, according to requirements.



calculation of the braking distance

Theoretical calculation of the braking distance considering a carriage and two braking element BWPS as example

BWPS size 45

A (number of braking elementes) = 2

t_R (reaction time) = 0.04s

F (holding force of the clamping elements) = 1800N

t_A (reaction time) = 0.03s

$m = 50\text{kg}$

$v_0 = 2\text{m/s}$

$\mu_G = 0.06$

$\mu_R = 0.1$

formulars

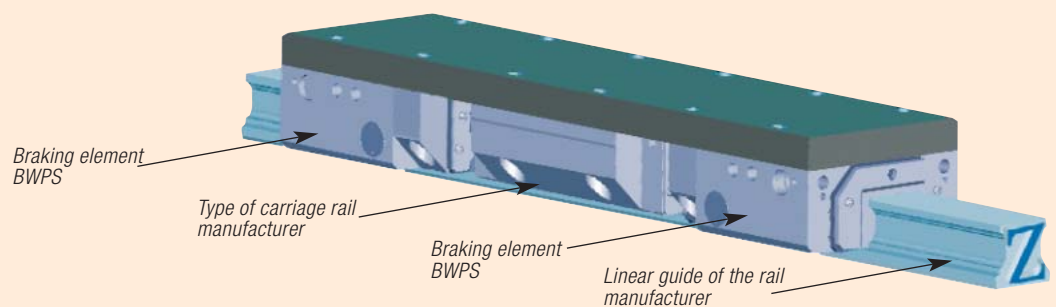
$$W_{\text{Kin}} = \frac{1}{2} m \cdot v_0^2$$

$$W_{\text{Reib}} = F \cdot A \cdot \frac{\mu_G}{\mu_R} \cdot s_B$$

$$\text{braking distance } s_B = \frac{m \cdot v_0^2}{2 \cdot F \cdot A \cdot \frac{\mu_G}{\mu_R}} = 0.046\text{m}$$

$$\text{reaction distance + response distance } s_R = v_0^2 \cdot (t_R + t_A) = 0.14\text{m}$$

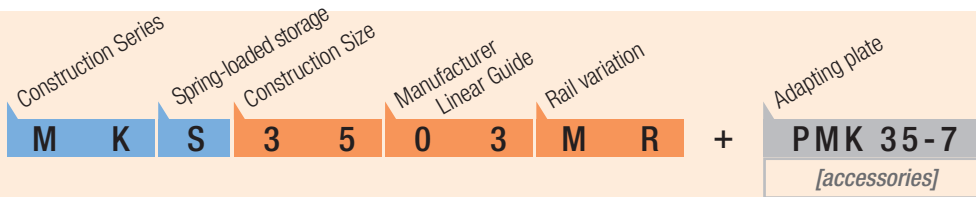
$$\text{stopping distance } s_H = s_B + s_R = 0.186\text{m}$$



During installation of the axis, with the brakes, the respectively valid machinery directives have to be followed. Please contact us for help with the installation!



number code explanation



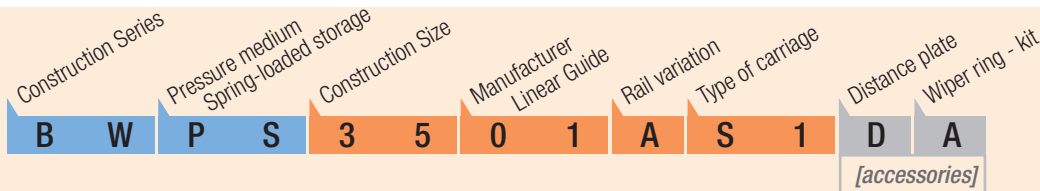
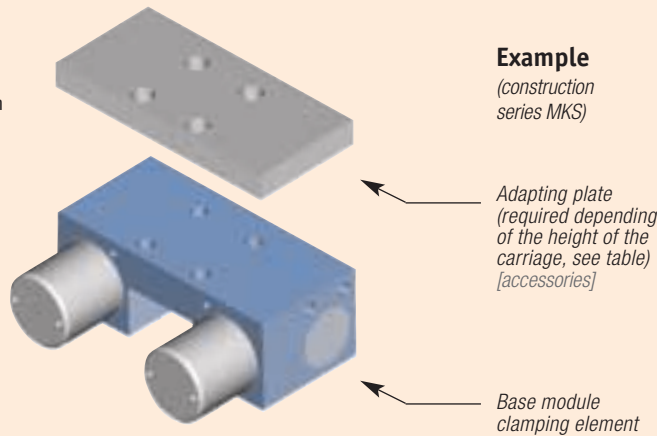
number codes for construction series:

- ➔ MK
- ➔ MKR
- ➔ MKE
- ➔ AU
- ➔ HK
- ➔ MiniHK
- ➔ HKR

The number code considering our model MKS as example. The tables of the overview pages contain the order numbers of the elements as well as - if required - the order numbers of the appropriate adapting plate (accessories).

Please include both order numbers in case an adapting plate is required

You will find sizes and outlines underneath each particular construction series.



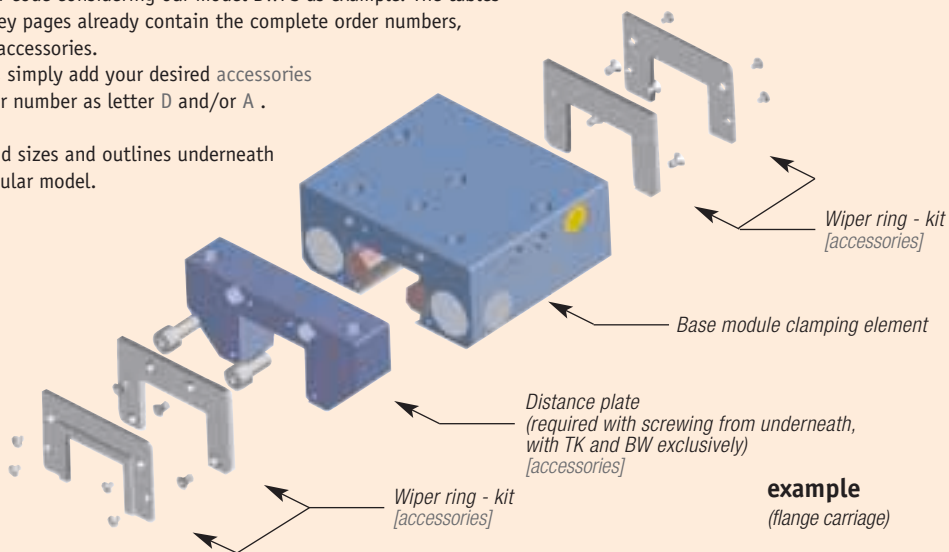
number codes for construction series:

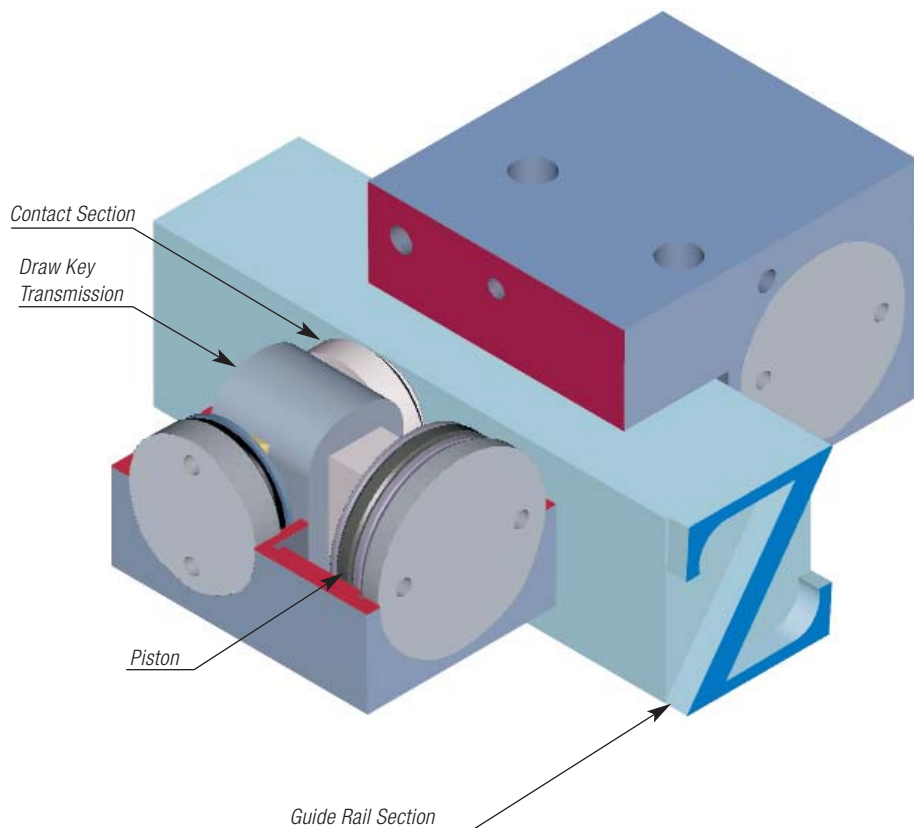
- ➔ MB
- ➔ MBES
- ➔ BW
- ➔ TK
- ➔ KW
- ➔ KB
- ➔ SB

The number code considering our model BWPS as example. The tables of the survey pages already contain the complete order numbers, except for accessories.

If required, simply add your desired accessories to the order number as letter D and/or A .

You will find sizes and outlines underneath each particular model.





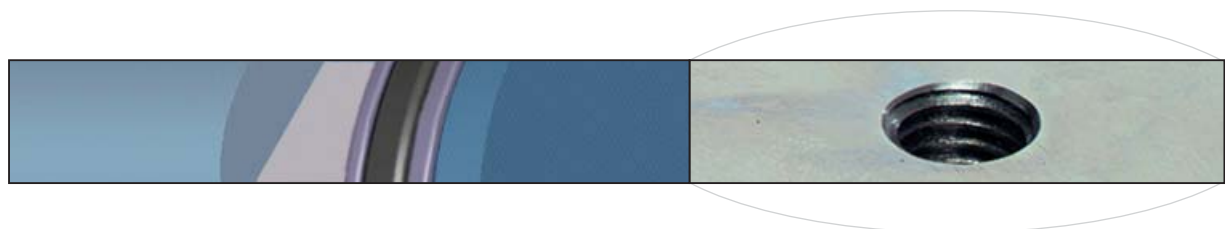
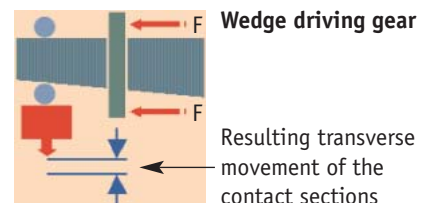
MK
Pneumatic clamping
alternatively with
spring-loaded
energy storage.

High holding forces - low cost: The pneumatic Clamping Element MK.

The MK is the classic element under the Zimmer clamping elements. The patented wedge driving gear achieves high supporting forces. The pressure medium moves the wedge driving gear in longitudinal direction. The resulting transverse movement presses contact sections with high force against the free surfaces of the section rail guide. The MK is clamped (closed) with pneumatic pressure. The MKS is clamped (closed) by spring force and is opened by pneumatic pressure.

Special Characteristics:

- Compact Design
- High clamping forces
- Exact positioning
- Strong axial and horizontal rigidity



Application Possibilities MK:

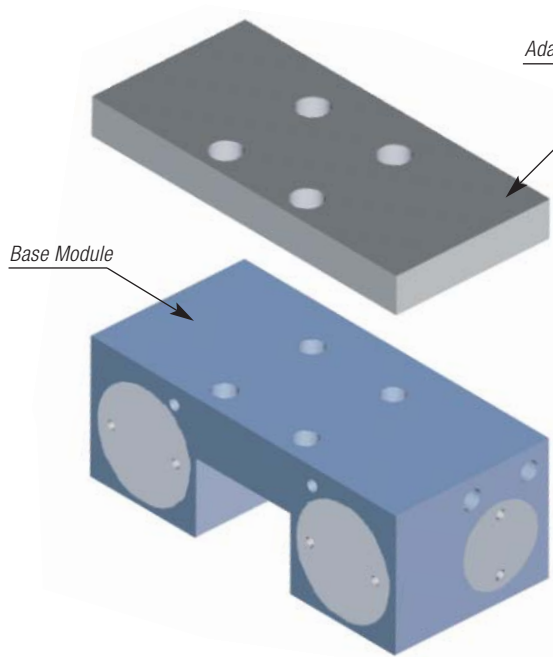
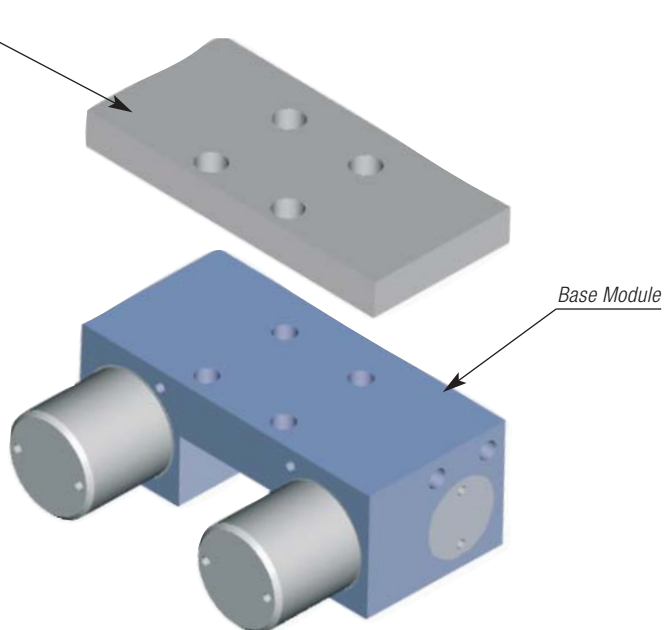
- Positioning of axes
- Fixing of vertical axes
- Positioning of lifting devices
- Clamping of machine tables

Version MKS:

In addition to the construction series MK, there is the spring-loaded version: the MKS, a pneumatic clamping element opening with pressure. Opening pressure >5.5 bar, pneumatic.

Application Possibilities MKS:

- Clamping element in case of pressure drop
- Clamping without energy requirement

Construction form MK**Construction form MKS****Variations:**

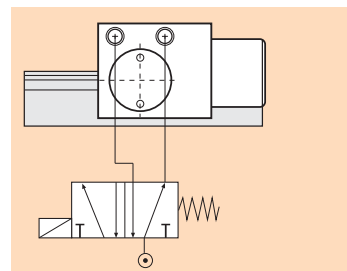
According to height of the guide carriage an additional adapter plate must be ordered (see table)

Connection possibilities:

The MK/MKS Series have air connections on both sides as part of their standard equipment. This means that the air connection preadjusted at the factory and the air-release filter can be moved over to the opposite side.

Higher supporting forces by PLUS connection (MKS):

By using a 5/2- (free of overflow) or a 5/3-valve it is possible to support the spring power with pneumatic pressure. By using the PLUS connection, the stated supporting force will be increased up to 2.5 times. When PLUS air (only MKS) is being used the air-release filter is replaced by connecting a second pneumatic tube (see drawing beside). For further information, please refer to the assembly instructions or visit www.zimmer-gmbh.com.



The MKR (clamping for corrugated sections) and the MKE (clamping with electric drive) are featured as separate construction series.





	Type of rail	Size	Type of carriage	Item number	Adapting plate * (for height compensation)	Measure D [mm]	Measure D [mm] ** (page 20 and 21)
Rail Manufacturer	SR/SSR	15	SR - TB, SB, W, V SSR - XW, XV, XTB	MK/MKS 1501 A		24	1
		20		MK/MKS 2001 A		28	7
		25		MK/MKS 2501 A		33	17
		30	SR - TB, SB, W, V SSR - XW	MK/MKS 3001 A		42	29
		35		MK/MKS 3501 A		48	38
		45	SR - TB, SB, W, V	MK/MKS 4501 A		60	46
		55		MK/MKS 5501 SR		68	55
HSR	15	A, B	MK/MKS 1501 A		24	1	
		R	MK/MKS 1501 A	PMK 15-4	28		
	20	A, LA, B, LB, R, LR, CA, HA, CB, HB	MK/MKS 2001 A		30	9	
	25	A, LA, B, LB, CA, HA, CB, HB	MK/MKS 2501 A		36	19	
		R, LR	MK/MKS 2501 A	PMK 25-4	40		
	30	A, LA, B, LB, CA, HA, CB, HB	MK/MKS 3001 A		42	29	
		R, LR	MK/MKS 3001 A	PMK 30-3	45		
	35	A, LA, B, LB, CA, HA, CB, HB	MK/MKS 3501 A		48	38	
		R, LR	MK/MKS 3501 A	PMK 35-7	55		
	45	A, LA, B, LB, CA, HA, CB, HB	MK/MKS 4501 A		60	46	
		R, LR	MK/MKS 4501 A	PMK 45-10	70		
	55	A, LA, B, LB, CA, HA, CB, HB	MK/MKS 5501 A		70	56	
		R, LR	MK/MKS 5501 A	PMK 55-10	80		
65	A, LA, B, LB, R, LR, CA, HA, CB, HB	MK/MKS 6501 A		90	61		
GSR	15	T, V	Ⓢ	-	-	-	
			MK/MKS 2001 G ★		24	5	
			MK/MKS 2501 G ★		30	23	
	30	T	MK/MKS 3001 G ★		33	31	
			MK/MKS 3501 G ★		38	32	
HRW	17	CA, CR	MK 1701 B ★		17	11	
	21		MK/MKS 2101 B		21	24	
	27		MK/MKS 2701 B		27	25	
	35		MK/MKS 3501 B		35	49	
	50		MK/MKS 5001 B		50	62	
	60	CA	Ⓢ	-	60	-	
SNR/SNS NR/NRS	25	SNR/SNS - R, LR, C, LC, NR/NRS - XR, XLR, XA, XLA, XB, XLB	MK/MKS 2501 N		31	68	
	30	SNR/SNS - R, LR, C, LC,	MK/MKS 3001 A		38	26	
	35	NR/NRS-R, LR, A, LA, B, LB	MK/MKS 3501 A		44	37	
			MK/MKS 4501 A		52	43	
	55		MK/MKS 5501 A		63	52	
65		Ⓢ	-	-	-		
SHS	15	C, LC, V, LV	MK/MKS 1501 A		24	1	
		R	MK/MKS 1501 A	PMK 15-4	28		
	20	C, LC, V, LV	MK/MKS 2001 A		30	9	
	25	C, LC, V, LV	MK/MKS 2501 A	PMK 25-2	36	18	
		R, LR	MK/MKS 2501 A	PMK 25-6	40		
	30	C, LC, V, LV	MK/MKS 3001 A		42	29	
		R, LR	MK/MKS 3001 A	PMK 30-3	45		
	35	C, LC, V, LV	MK/MKS 3501 A	PMK 35-4	48	37	
		R, LR	MK/MKS 3501 A	PMK 35-11	55		
	45	C, LC, V, LV	MK/MKS 4501 A	PMK 45-6	60	44	
		R, LR	MK/MKS 4501 A	PMK 45-16	70		
	55	C, LC, V, LV	MK/MKS 5501 A	PMK 55-6	70	53	
		R, LR	MK/MKS 5501 A	PMK 55-16	80		
65	C, LC, V, LV	MK/MKS 6501 A		90	60		
HCR	15	HCR 15A +60/150R	MK/MKS 1501/150		24	64	
		HCR 15A +60/300R	MK/MKS 1501/300				
		HCR 15A +60/400R	MK/MKS 1501/400				

★ no plus-connection possible

* Only necessary with high block design.

** Use for the table of dimensions as well as the data sheet.

For number code explanation see page 11

Type of rail	Size	Type of carriage	Item number	Adapting plate * [for height compensation]	Measure D [mm]	Measure table [Page 20 and 21]	Rail Manufacturer
HCR	25	HCR 25A +60/500R	MK/MKS 2501/500		36	65	 The Mark of Linear Motion
		HCR 25A +60/750R	MK/MKS 2501/750				
		HCR 25A +60/1000R	MK/MKS 2501/1000				
	35	HCR 35A +60/600R	MK/MKS 3501/600		48	66	
		HCR 35A +60/800R	MK/MKS 3501/800				
		HCR 35A +60/1000R	MK/MKS 3501/1000				
		HCR 35A +60/1300R	MK/MKS 3501/1300				
	45	HCR 45A +60/800R	MK/MKS 4501/800		60	67	
		HCR 45A +60/1000R	MK/MKS 4501/1000				
		HCR 45A +60/1200R	MK/MKS 4501/1200				
		HCR 45A +60/1600R	MK/MKS 4501/1600				
	65	HCR 65A +60/1000R	☞	-	-	-	
		HCR 65A +60/1500R	☞	-	-	-	
		HCR 65A +45/2000R	☞	-	-	-	
HCR 65A +45/2500R		☞	-	-	-		
HCR 65A +30/3000R		☞	-	-	-		
SRG	25	C, LC	☞	-	-	-	
		R, LR	☞	-	-	-	
	30	C, LC	☞	-	-	-	
		R, LR	☞	-	-	-	
	35	C, LC	☞	-	-	-	
		R, LR	☞	-	-	-	
	45	C, LC	MK/MKS 4501 E		60	42	
		R, LR	MK/MKS 4501 E	PMK 45-10	70		
	55	C, LC	☞	-	-	-	
		R, LR	☞	-	-	-	
65	LC, LV	☞	-	-	-		
1605 1607 1645 1647	15	1622, 1623, 1631, 1632, 1651, 1653, 1661, 1662, 1665, 1666	MK/MKS 1505 AK		24	2	
		1621	MK/MKS 1505 AK	PMK 15-4	28		
	20	1622, 1623, 1651, 1653, 1661, 1662, 1665, 1666	MK/MKS 2005 AK		30	8	
		1622, 1623, 1631, 1632, 1651, 1653, 1661, 1662, 1665, 1666	MK/MKS 2505 AK		36	14	
	30	1621, 1624	MK/MKS 2505 AK	PMK 25-4	40		
		1622, 1623, 1631, 1632, 1651, 1653, 1661, 1662, 1665, 1666	MK/MKS 3005 AK		42	27	
	35	1621, 1624	MK/MKS 3005 AK	PMK 30-3	45		
		1622, 1623, 1631, 1632, 1651, 1653, 1661, 1662, 1665, 1666	MK/MKS 3505 AK		48	35	
	45	1621, 1624	MK/MKS 3505 AK	PMK 35-7	55		
		1622, 1623, 1651, 1653	MK/MKS 4505 AK		60	42	
	55	1621, 1624	MK/MKS 4505 AK	PMK 45-10	70		
		1622, 1623, 1651, 1653	MK/MKS 5505 AK		70	51	
	65	1621, 1624	MK/MKS 5505 AK	PMK 55-10	80		
		1622, 1623, 1651, 1653	MK/MKS 6505 AK		90	59	
1675 1677	20	1671	MK/MKS 2005 KB		27	69	
	25		MK/MKS 2505 KB		35	41	
	35		MK/MKS 3505 KB		50	63	
1805 1807	25	1851, 1853	MK/MKS 2505 AR		36	14	
		1821, 1824	MK/MKS 2505 AR	PMK 25-4	40		
	35	1851, 1853	MK/MKS 3505 AR		48	35	
		1821, 1824	MK/MKS 3505 AR	PMK 35-7	55		
	45	1851, 1853	MK/MKS 4505 AR		60	42	
		1821, 1824	MK/MKS 4505 AR	PMK 45-10	70		
	55	1851, 1853	MK/MKS 5505 AR		70	51	
		1821, 1824	MK/MKS 5505 AR	PMK 55-10	80		
65	1853	MK/MKS 6505 AR		90	59		
	1824	MK/MKS 6505 AR					

* Only necessary with high block design.

For number code explanation see page 11

** Use for the table of dimensions as well as the data sheet.

Rail Manufacturer	Type of rail	Size	Type of carriage	Item number	Adapting plate * (for height compensation)	Measure D [mm]	Measure D [mm] ** (Page 20 and 21)	
SCHNEEBERGER <small>GEAR TECHNOLOGY</small>	MR	25	MRA, MRB	MK/MKS 2503 MR		36	14	
			MRC, MRD	MK/MKS 2503 MR	PMK 25-4	40		
		35	MRA, MRB	MK/MKS 3503 MR		48	35	
			MRC, MRD	MK/MKS 3503 MR	PMK 35-7	55		
		45	MRA, MRB	MK/MKS 4503 MR		60	42	
			MRC, MRD	MK/MKS 4503 MR	PMK 45-10	70		
	55	MRA, MRB	MK/MKS 5503 MR		70	51		
		MRC, MRD	MK/MKS 5503 MR	PMK 55-10	80			
	65	MRB, MRD		MK/MKS 6503 MR		90	59	
	MZ	25	MRE	MK/MKS 2501 A		60	22	
		35		MK/MKS 3501 A	PMK 35-4	85	40	
	MR - X	25	MRC	MK/MKS 2501 A		40	13	
		35		MK/MKS 3501 A	PMK 35-4	55	34	
	BM	15	BMA	MK/MKS 1503 BM		24	2	
			BMC	MK/MKS 1503 BM	PMK 15-4	28		
		20	BMA, BMB, BMC, BMD	MK/MKS 2003 BM		30	8	
		25	BMA, BMB	MK/MKS 2503 BM		36	10	
			BMC, BMD	MK/MKS 2503 BM	PMK 25-4	40		
		30	BMA, BMB	MK/MKS 3003 BM		42	27	
			BMC, BMD	MK/MKS 3003 BM	PMK 30-3	45		
		35	BMA, BMB	MK/MKS 3503 BM		48	35	
			BMC, BMD	MK/MKS 3503 BM	PMK 35-7	55		
		45	BMA, BMB	MK/MKS 4503 BM		60	42	
	BMC, BMD		MK/MKS 4503 BM	PMK 45-10	70			
	IKO	LWH	15	LWH..B, LWHT..B, LWHS..B	MK/MKS 1501 A		24	1
				LWHD..B	MK/MKS 1501 A	PMK 15-4	28	
			20	LWH..B, LWHT..B, LWHG, LWHTG, LWHSG	MK/MKS 2001 A		30	9
25			LWH..B, LWHT..B, LWHS..B, LWHG, LWHTG, LWHSG	MK/MKS 2501 A		36	19	
			LWHD..B, LWHDG	MK/MKS 2501 A	PMK 25-4	40		
30			LWH..B, LWHT..B, LWHS..B, LWHG, LWHTG, LWHSG	MK/MKS 3001 A		42	29	
			LWHD..B, LWHDG	MK/MKS 3001 A	PMK 30-3	45		
35			LWH..B, LWHT..B, LWHG, LWHTG	MK/MKS 3501 A		48	38	
			LWHD..B, LWHDG	MK/MKS 3501 A	PMK 35-7	55		
45			LWH..B, LWHT..B, LWHG, LWHTG	MK/MKS 4501 A		60	46	
			LWHD..B, LWHDG	MK/MKS 4501 A	PMK 45-10	70		
55			LWH..B, LWHT..B, LWHG, LWHTG	MK/MKS 5501 A		70	56	
		LWHD..B, LWHDG	MK/MKS 5501 A	PMK 55-10	80			
65		LWH..B, LWHT..B, LWHG, LWHTG, LWHD..B, LWHDG	MK/MKS 6501 A		90	60		
LWF		40	LWF, LWFV	Ⓢ	-	-	-	
		60		Ⓢ	-	-	-	
	90		Ⓢ	-	-	-		
LWE	15	LWEC, LWEC..SL, LWE, LWE..SL, LWEG, LWEG..SL,	MK/MKS 1501 A		24	1		
	20	LWETC, LWETC..SL, LWET, LWET..SL, LWETG,	MK/MKS 2001 A		28	7		
	25	LWETG..SL, LWESC, LWESC..SL, LWES, LWESG,	MK/MKS 2501 A		33	17		
	30	LWESG..SL	MK/MKS 3001 A		42	29		
	35	LWEC, LWE, LWETC, LWET, LWESC, LWES	MK/MKS 3501 A		48	38		
	45	LWE, LWET, LWES	MK/MKS 4501 A		60	46		

* Only necessary with high block design.

** Use for the table of dimensions as well as the data sheet.

For number code explanation see page 11

Type of rail	Size	Type of carriage	Item number	Adapting plate * [for height compensation]	Measure D [mm]	Measure table [Page 20 and 21]	Rail Manufacturer
LRX	15	LRXC, LRX, LRXG	MK/MKS 1501 A		24	1	IKO
		LRXDC, LRXD, LRXDG	MK/MKS 1501 A		28	4	
	20	LRXC, LRX, LRXG	MK/MKS 2001 A		30	9	
		LRXDC, LRXD, LRXDG	MK/MKS 2001 A		34	71	
	25	LRXC, LRX, LRXG	MK/MKS 2501 A		36	19	
		LRXDC, LRXD, LRXDG	MK/MKS 2501 A		40	21	
	30	LRXC, LRX, LRXG	MK/MKS 3001 A		42	29	
		LRXDC, LRXD, LRXDG	MK/MKS 3001 A		45	30	
	35	LRXC, LRX, LRXG	MK/MKS 3501 A		48	38	
		LRXDC, LRXD, LRXDG	MK/MKS 3501 A	PMK 35-7	55		
	45	LRXC, LRX, LRXG	MK/MKS 4501 A		60	46	
		LRXDC, LRXD, LRXDG	MK/MKS 4501 A	PMK 45-10	70		
	55	LRXC, LRX, LRXG	MK/MKS 5501 A		70	56	
		LRXDC, LRXD, LRXDG	MK/MKS 5501 A	PMK 55-10	80		
KUE	15	KUE	MK/MKS 1501 A		24	1	INA
		KUE - H	MK/MKS 1501 A	PMK 15-4	28		
	20	KUE, KUE - H	MK/MKS 2001 A		30	9	
		25	KUE	MK/MKS 2501 A	PMK 25-4	36	
	KUE - H		MK/MKS 2501 A	PMK 25-8	40		
	30	KUE	MK/MKS 3001 A	PMK 30-2	42	28	
		KUE - H	MK/MKS 3001 A	PMK 30-5	45		
	35	KUE	MK/MKS 3501 A	PMK 35-8	48	33	
KUE - H		MK/MKS 3501 A	PMK 35-15	55			
KUSE	20	KUSE, KUSE - L	MK/MKS 2001 A		30	9	
		KUSE, KUSE - L	MK/MKS 2501 A		36	19	
	30	KUSE - H, HL	MK/MKS 2501 A	PMK 25-4	40		
		KUSE, KUSE - L	MK/MKS 3001 A		42	29	
	35	KUSE - H, HL	MK/MKS 3001 A	PMK 30-3	45		
		KUSE, KUSE - L	MK/MKS 3501 A		48	38	
	45	KUSE - H, HL	MK/MKS 3501 A	PMK 35-7	55		
		KUSE, KUSE - L	MK/MKS 4501 A		60	46	
	55	KUSE - H, HL	MK/MKS 4501 A	PMK 45-10	70		
		KUSE, KUSE - L	MK/MKS 5501 A		70	56	
KUSE	KUSE - H, HL	MK/MKS 5501 A	PMK 55-10	80			
KUVE	15	KUVE, KUVE - S, E, EC, ES, ESC	MK/MKS 1501 A		24	1	
		KUVE - H	MK/MKS 1501 A	PMK 15-4	28		
	20	KUVE, KUVE - L, S	MK/MKS 2002 K		30	9	
		KUVE - N, SN	MK/MKS 2002 K		27	6	
		KUVE - E, EC, ES, ESC	MK/MKS 2002 K		28	7	
	25	KUVE, KUVE - L, S	MK/MKS 2502 K	PMK 25-2	36	18	
		KUVE - N, SN	MK/MKS 2502 K		31	12	
		KUVE - E, EC, ES, ESC	MK/MKS 2502 K		33	17	
		KUVE - H	MK/MKS 2502 K	PMK 25-6	40	18	
	30	KUVE, KUVE - L, S, E, EC, ES, ESC	MK/MKS 3002 K		42	29	
		KUVE - N, SN	MK/MKS 3002 K		38	26	
		KUVE - H	MK/MKS 3002 K	PMK 30-3	45	29	
	35	KUVE, KUVE - L, S, E, EC, ES, ESC	MK/MKS 3502 K		48	38	
		KUVE - N, SN	MK/MKS 3502 K		44	37	
		KUVE - H	MK/MKS 3502 K	PMK 35-11	55	37	
	45	KUVE, KUVE - L, S, E, EC, ES, ESC	MK/MKS 4502 K		60	46	
		KUVE - N, SN	Ⓢ	-	52	-	
		KUVE - H	MK/MKS 4502 K	PMK 45-10	70	46	
	KUVE - W	15	KUVE - W	MK/MKS 1502 KB ★		21	70
		20	KUVE - W	Ⓢ	-	-	-
25		KUVE - WL	MK/MKS 2502KB		35	49	
30		KUVE - W	Ⓢ	-	-	-	
35		KUVE - WL	MK/MKS 3502KB		50	63	

★ no plus-connection possible

* Only necessary with high block design.

** Use for the table of dimensions as well as the data sheet.

For number code explanation see page 11



Rail Manufacturer	Type of rail	Size	Type of carriage	Item number	Adapting plate * (for height compensation)	Measure D [mm] **	Measure D [mm] ** (Page 20 and 21)
INA	RUE	25	RUE - D, DL	MK/MKS 2502 R ★	PMK 25-2	36	18
			RUE - DH, DHL	MK/MKS 2502 R ★	PMK 25-6	40	18
		35	RUE - D, DL	MK/MKS 3502 R ★	PMK 35-3	48	36
			RUE - DH, DHL	MK/MKS 3502 R ★	PMK 35-10	55	36
		45	RUE - D, DL	MK/MKS 4502 R ★	PMK 45-2	60	45
			RUE - DH, DHL	MK/MKS 4502 R ★	PMK 45-12	70	45
		55	RUE - D, DL	MK/MKS 5502 R ★		70	50
			RUE - DH, DHL	MK/MKS 5502 R ★	PMK 55-10	80	50
		65	RUE - D, DL	MK/MKS 6502 R ★		90	58
			RUE - DH, DHL	MK/MKS 6502 R ★	PMK 65-10	100	58

Rail Manufacturer	Type of rail	Size	Type of carriage	Item number	Adapting plate * (for height compensation)	Measure D [mm] **	Measure D [mm] ** (Page 20 and 21)	
NSK	LH	15	LAH..ELZ - 90, LAH..GLZ - 90	MK/MKS 1501 A		24	1	
			LAH - ANZ, LAH - BNZ	MK/MKS 1501 A	PMK 15-4	28	7	
		20	LAH..ELZ - 90, LAH..GLZ - 90, LAH - ANZ, BNZ	MK/MKS 2001 A		30	9	
			LAH..ELZ - 90, LAH..GLZ - 90	MK/MKS 2501 A		36	19	
		25	LAH - ANZ, BNZ	MK/MKS 2501 A	PMK 25-4	40		
			LAH..ELZ - 90, LAH..GLZ - 90	MK/MKS 3001 A		42	29	
		30	LAH - ANZ, BNZ	MK/MKS 3001 A		45	30	
			LAH..ELZ - 90, LAH..GLZ - 90	MK/MKS 3501 A		48	38	
		35	LAH - ANZ, BNZ	MK/MKS 3501 A	PMK 35-7	55		
			LAH..ELZ - 90, LAH..GLZ - 90	MK/MKS 4501 A		60	46	
		45	LAH - ANZ, BNZ	MK/MKS 4501 A	PMK 45-10	70		
			LAH..ELZ - 90, LAH..GLZ - 90	MK/MKS 5501 A		70	56	
		55	LAH - ANZ, BNZ	MK/MKS 5501 A	PMK 55-10	80		
			LAH..ELZ - 90, LAH..GLZ - 90, LAH - ANZ, BNZ	MK/MKS 6501 A		90	61	
		LS	15	LAS - KLZ, FLZ, ELZ, CLZ, ALZ	MK/MKS 1501 A		24	1
					MK/MKS 2001 A		28	7
				MK/MKS 2501 A		33	17	
				MK/MKS 3001 A		42	29	
				MK/MKS 3501 A	PMK 35-4	48	37	
	LY, LA	15	LY..EL, FL, AL	MK/MKS 1501 A		24	1	
			LY..AN	MK/MKS 1501 A	PMK 15-4	28		
		20	LY..EL, FL, GL, HL, AL, BL	MK/MKS 2001 A		30	9	
			LY..EL, FL, GL, HL, AL, BL, LA..EL, GL, FL, HL	MK/MKS 2501 A		36	19	
		25	LY..AN, BN, LA..AN, BN	MK/MKS 2501 A	PMK 25-4	40		
			LY..EL, FL, GL, HL, TL, AL, BL, LA..EL, GL, FL, HL	MK/MKS 3001 A		42	29	
		30	LY..AN, BN, LA..AN, BN	MK/MKS 3001 A		45	30	
			LY..EL, FL, GL, HL, AL, BL, LA..EL, GL, FL, HL, AL, BL	MK/MKS 3501 A		48	38	
		35	LY..AN, BN, LA..AN, BN	MK/MKS 3501 A	PMK 35-7	55		
			LY..EL, FL, GL, HL, AL, BL, LA..EL, GL, FL, HL, AL, BL	MK/MKS 4501 A		60	46	
		45	LY..AN, BN, LA..AN, BN	MK/MKS 4501 A	PMK 45-10	70		
			LY..EL, FL, GL, HL, AL, BL, LA..EL, GL, FL, HL, AL, BL	MK/MKS 5501 A		70	56	
		55	LY..AN, BN, LA..AN, BN	MK/MKS 5501 A	PMK 55-10	80		
			LY..EL, FL, GL, HL, AL, BL, LA..EL, GL, FL, HL, AL, BL	MK/MKS 6501 A		90	60	
		LW	17	LW..EL	MK 1701 B ★		17	11
					MK/MKS 2101 B		21	24
				MK/MKS 2701 B		27	25	
				MK/MKS 3501 B		35	49	
				MK/MKS 5001 B		50	62	

★ no plus-connection possible

* Only necessary with high block design.

** Use for the table of dimensions as well as the data sheet.

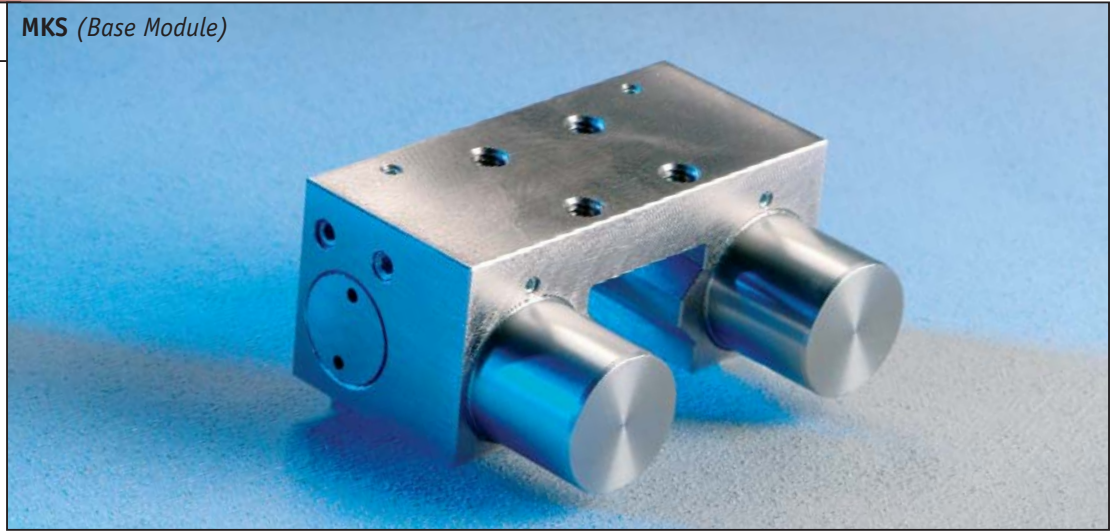
For number code explanation see page 11

Type of rail	Size	Type of carriage	Item number	Adapting plate * [for height compensation]	Measure D [mm]	Measure table [Page 20 and 21]	Rail Manufacturer
LLBHS	15	TA, TB, A, B	MK/MKS 1501 A		24	1	Rail Manufacturer
		TR	MK/MKS 1501 A		28	4	
	20	TA, TB, A, B, R	MK/MKS 2001 A		30	9	
		TA, TB, A, LA, B, LB	MK/MKS 2501 A		36	19	
	25	TR, R, LR	MK/MKS 2501 A		40	21	
		TA, TB, A, LA, B, LB	MK/MKS 3001 A		42	29	
	30	TR, R, LR	MK/MKS 3001 A		45	30	
		TA, TB, A, LA, B, LB	MK/MKS 3501 A		48	38	
	35	TR, R, LR	MK/MKS 3501 A	PMK 35-7	55		
		TA, TB, A, LA, B, LB	Ⓢ	-	-	-	
	45	TR, R, LR	MK/MKS 4501 A	PMK 45-4	70	47	
		TA, TB, A, LA, B, LB	Ⓢ	-	-	-	
55	TR, R, LR	MK/MKS 5501 A	PMK 55-4	80	57		
	TA, TB, A, LA, B, LB	Ⓢ	-	-	-		
65	TR, R, LR	Ⓢ	-	-	-		
	TA, TB, A, LA, B, LB	Ⓢ	-	-	-		
LLBUS	15	R, SR	MK/MKS 1501 A		24	1	
	20		Ⓢ	-	-	-	
	25		MK/MKS 2501 A		33	17	
	30		MK/MKS 3001 A		42	29	
	35		MK/MKS 3501 A		48	38	
	45	R	Ⓢ	-	-	-	
55		Ⓢ	-	-	-		
LLBNS	15	TR	MK/MKS 1501 A		27	3	
	20		MK/MKS 2501 A		37	20	
	25		Ⓢ	-	-	-	
	30		MK/MKS 3501 A		55	39	
	40		MK/MKS 4501 A		70	48	
	50		Ⓢ	-	-	-	
LGR..T LGR..R	15	LGW..CC	MK/MKS 1501 A		24	1	Rail Manufacturer
		LGH..CA	MK/MKS 1501 A	PMK 15-4	28		
	20	LGW..CC, LGW..HC	MK/MKS 2001 A		30	9	
		LGW..CC, LGW..HC	MK/MKS 2501 A		36	19	
	25	LGH..CA, LGH..HA	MK/MKS 2501 A	PMK 25-4	40		
		LGW..CC, LGW..HC	MK/MKS 3001 A		42	29	
	30	LGH..CA, LGH..HA	MK/MKS 3001 A	PMK 30-3	45		
		LGW..CC, LGW..HC	MK/MKS 3501 A	PMK 35-4	48	37	
	35	LGH..CA, LGH..HA	MK/MKS 3501 A	PMK 35-11	55		
		LGW..CC, LGW..HC	MK/MKS 4501 A	PMK 45-8	60	43	
	45	LGH..CA, LGH..HA	MK/MKS 4501 A	PMK 45-18	70		
		LGW..CC, LGW..HC	MK/MKS 5501 A	PMK 55-4	70	53	
55	LGH..CA, LGH..HA	MK/MKS 5501 A	PMK 55-14	80			
	LGW..CC, LGW..HC, LGH..CA, LGH..HA	MK/MKS 6501 A		90	60		
AGR..R/.U AGR..T	15	AGW - SC, CC	MK/MKS 1501 A		24	1	
	20	AGH - SA, CA	MK/MKS 2001 A		28	7	
	25		MK/MKS 2501 A		33	17	
	30		MK/MKS 3001 A		42	29	

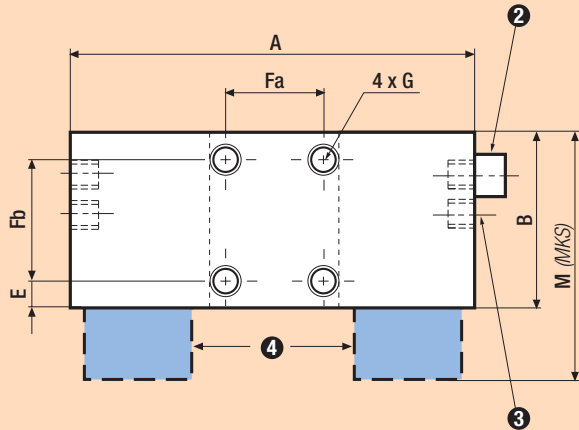
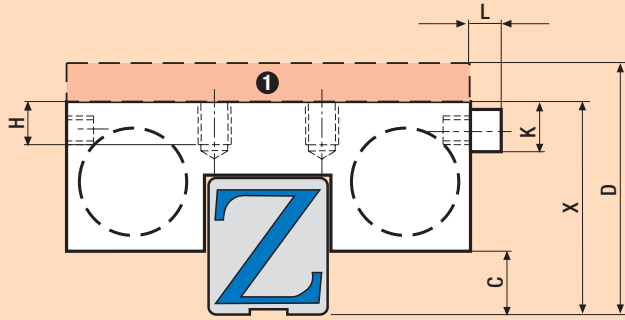


* Only necessary with high block design.

** Use for the table of dimensions as well as the data sheet.



Measure table	Fixing power [N] MK	Fixing power [N] MKS	A [mm]	B [mm]	C [mm]	X [mm]	E [mm]	Fa [mm]	Fb [mm]	G	H [mm]	M [mm]	L [mm]	K [mm]
1	650	400	55	39	2,5	24	15,5	15	15	M4	4,5	58	7	8
2	650	400	55	39	3,2	24	15,5	15	15	M4	4,5	58	7	8
3	650	400	55	39	5,5	27	15,5	15	15	M4	4,5	58	7	8
4	650	400	55	39	6,5	28	15,5	15	15	M4	4,5	58	7	8
5	650	400	60	59	4,5	24	22	15	25	M5	6	68	7	8
6	1000	600	66	39	1,5	27	5	20	20	M5	5,5	61	5	8
7	1000	600	66	39	2,5	28	5	20	20	M5	5,5	61	5	8
8	1000	600	66	39	3	30	9	20	20	M6	6	61	5	8
9	1000	600	66	39	4,5	30	5	20	20	M5	5,5	61	5	8
10	1200	750	70	39	5	36	5	20	20	M6	8	61	5	8
11	400	-	73	47	1,2	17	11,5	15	15	M5	5	-	5	8
12	1200	750	75	35	3	31	5	20	20	M6	8	56	5	8
13	1200	750	75	35	3,5	40	5	20	20	M6	8	56	5	8
14	1200	750	75	35	3,5	36	5	20	20	M6	8	56	5	8
15	1200	750	75	35	4	32	5	20	20	M6	8	56	5	8
16	1200	750	75	35	4	32	5	20	20	M6	8	56	5	8
17	1200	750	75	35	5	33	5	20	20	M6	8	56	5	8
18	1200	750	75	35	6	34	5	20	20	M6	8	56	5	8
19	1200	750	75	35	8	36	5	20	20	M6	8	56	5	8
20	1200	750	75	35	12	37	5	20	20	M6	8	56	5	8
21	1200	750	75	35	12	40	5	20	20	M6	8	56	5	8
22	1200	750	75	35	32	60	5	20	20	M6	8	56	5	8
23	1200	750	75	54	5	30	22	20	20	M6	8	65	5	8
24	650	400	77	49	2	21	21,5	15	15	M5	5	58	5	8
25	1000	600	88	53	4	27	19,5	20	20	M6	6	65	5	8
26	1750	1050	90	39	3	38	8,5	22	22	M8	10	68	5	8
27	1750	1050	90	39	3,5	42	8,5	22	22	M8	9	68	5	8
28	1750	1050	90	39	5	40	8,5	22	22	M8	10	68	5	8
29	1750	1050	90	39	7	42	8,5	22	22	M8	10	68	5	8
30	1750	1050	90	39	10	45	8,5	22	22	M8	10	68	5	8
31	1750	1050	90	59	5	33	23,5	22	22	M8	8	78	5	8
32	1750	1050	96	54	8,5	38	20	20	20	M8	10	73	5	8
33	2000	1250	100	39	3,5	40	7,5	24	24	M8	10	67	5	8
34	2000	1250	100	39	4	51	7,5	24	24	M8	10	67	5	8
35	2000	1250	100	39	4	48	7,5	24	24	M8	10	67	5	8
36	2000	1250	100	39	8,5	45	7,5	24	24	M8	10	67	5	8
37	2000	1250	100	39	7,5	44	7,5	24	24	M8	10	67	5	8
38	2000	1250	100	39	11,5	48	7,5	24	24	M8	10	67	5	8
39	2000	1250	100	39	18,5	55	7,5	24	24	M8	10	67	5	8
40	2000	1250	100	39	44	81	7,5	24	24	M8	10	67	5	8
41	1200	750	120	35	2,5	35	5	50	20	M6	8	56	5	8
42	2250	1450	120	49	8	60	11,5	26	26	M10	15	82	5	8
43	2250	1450	120	49	8,5	52	11,5	26	26	M10	15	82	5	8

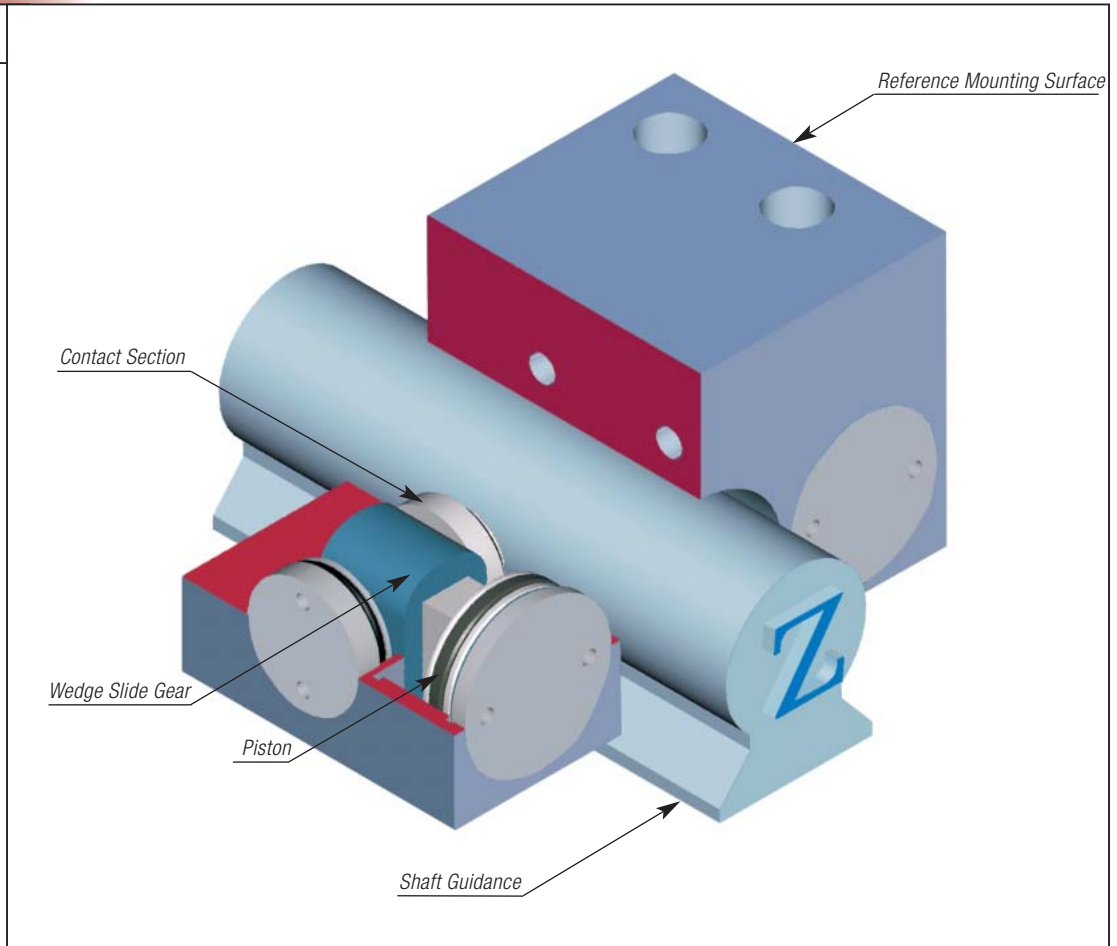


Note: Consider C-moment!

Air connections are located on both sides and can be exchanged according to mounting requirements. Only one connection is necessary for function.

- ❶ Adapter plate PMK (accessory)
- ❷ MK Series: Air filter
MKS: M5 port (air connection)
- ❸ MK Series: M5 port (air connection)
MKS: Air filter / Plus connection M5.
- ❹ Mounting of spring unit at MKS is omitted at MK.

Measure table	Fixing power [N] MK	Fixing power [N] MKS	A [mm]	B [mm]	C [mm]	X [mm]	E [mm]	Fa [mm]	Fb [mm]	G	H [mm]	M [mm]	L [mm]	K [mm]
44	2250	1450	120	49	10,5	54	11,5	26	26	M10	15	82	5	8
45	2250	1450	120	49	14,5	58	11,5	26	26	M10	15	82	5	8
46	2250	1450	120	49	16,5	60	11,5	26	26	M10	15	82	5	8
47	2250	1450	120	49	22,5	66	11,5	26	26	M10	15	82	5	8
48	2250	1450	120	49	26,5	70	11,5	26	26	M10	15	82	5	8
49	1200	750	121	36	5	35	5	50	20	M8	10	57	5	8
50	3000	2000	128	49	10	70	9,5	30	30	M10	15	82	5	8
51	3000	2000	128	49	13	70	9,5	30	30	M10	15	82	5	8
52	2250	1450	128	49	14,5	63	9,5	30	30	M10	18	82	5	8
53	2250	1450	128	49	15,5	64	9,5	30	30	M10	18	82	5	8
54	2250	1450	128	49	17,5	66	9,5	30	30	M10	18	82	5	8
55	2250	1450	128	49	19,5	68	9,5	30	30	M10	18	82	5	8
56	2250	1450	128	49	21,5	70	9,5	30	30	M10	18	82	5	8
57	2250	1450	128	49	27,5	76	9,5	30	30	M10	18	82	5	8
58	2250	1450	138	49	11,5	90	9,5	30	30	M10	18	82	5	8
59	3000	2000	138	49	16,5	90	9,5	30	30	M10	18	82	5	8
60	2250	1450	138	49	27	90	9,5	30	30	M10	19	82	5	8
61	2250	1450	138	49	31	90	9,5	30	30	M10	19	82	5	8
62	2000	1250	156	39	4,5	50	9,5	60	20	M10	11	67	5	8
63	2000	1250	156	42	4,5	50	9,5	60	20	M10	10	70	5	8
64	650	400	64	39	2,5	24	15,5	15	15	M4	4,5	58	7	8
65	1200	750	84	35	8	36	5	20	20	M6	8	56	5	8
66	2000	1250	114	39	11,5	48	7,5	24	24	M8	10	67	5	8
67	2250	1450	130	49	16,5	60	11,5	26	26	M10	15	82	5	8
68	1200	750	75	35	3	31	5	20	20	M6	8	56	5	8
69	650	400	80	39	3,5	27	15,5	20	20	M4	4,5	58	7	8
70	650	400	77	39	2	21	21,5	15	15	M5	5	58	5	8
71	1000	600	66	39	8,5	34	5	20	20	M5	5,5	61	5	8

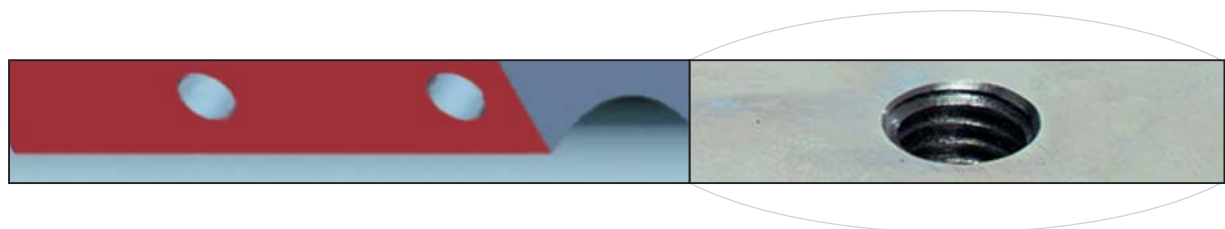
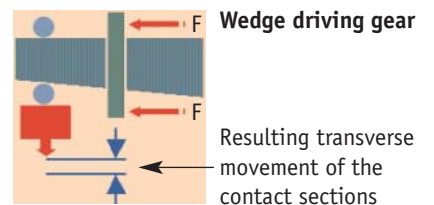


MKR

Pneumatic clamping,
alternately with spring-loaded
energy storage.

Efficient clamping elements for shaft-guidings MKR.

The MKR is our classic element for round-shaft guides, clamping (closing) with air pressure. The patented wedge driving gear enables high fixing powers. Pressure moves the wedge in longitudinal direction. The resulting transverse movement presses the contact sections against the shaft guides. The MKRS element is a spring-loaded energy storage version of the MKR.



MKR special features:

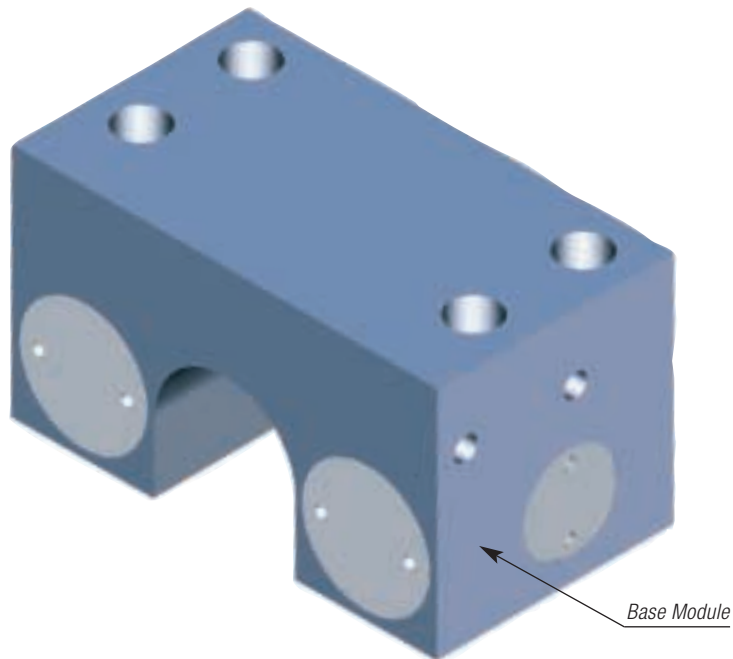
- Compact design
- High holding force and exact positioning
- High axial and horizontal rigidity
- Opening pressure > 5.5 bar

Application possibilities MKR:

- Axes with pneumatic positioning
- Table traverses in wood industry
- Fixing of vertical axes
- Positioning of lifting devices
- Pneumatic clamping of machine tables
- Machine table clamping of work centres

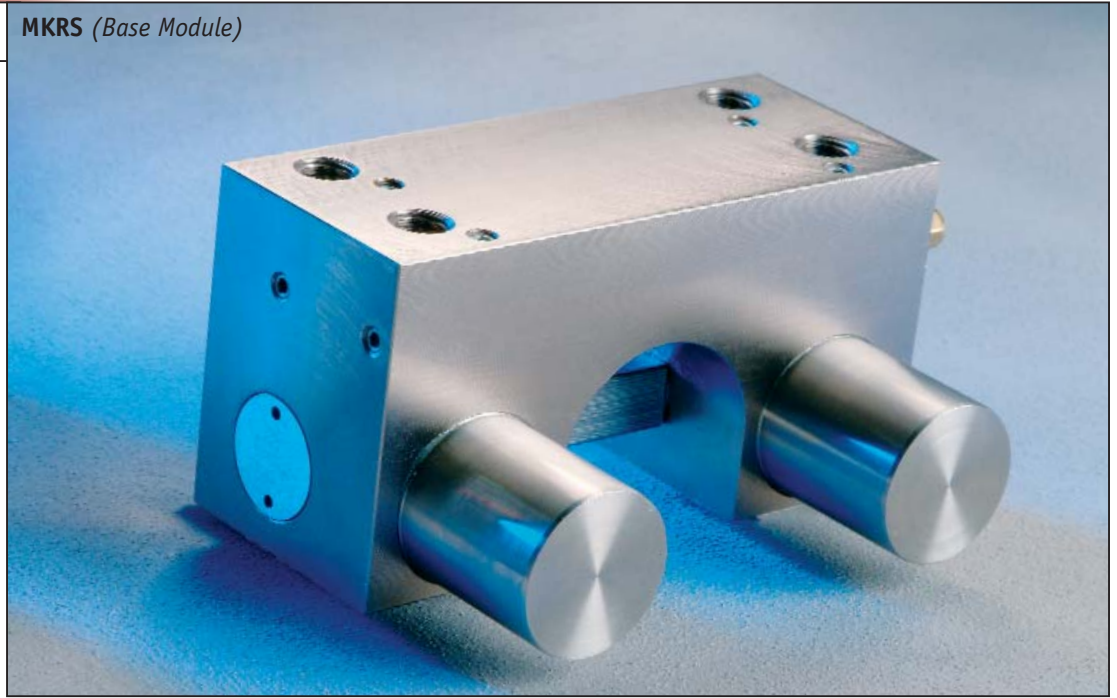
Additional application possibilities MKRS:

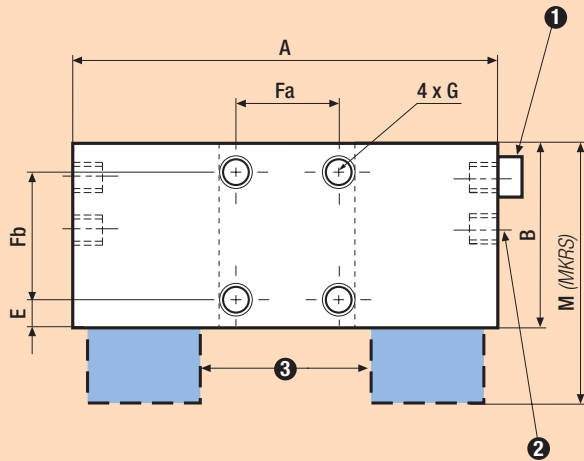
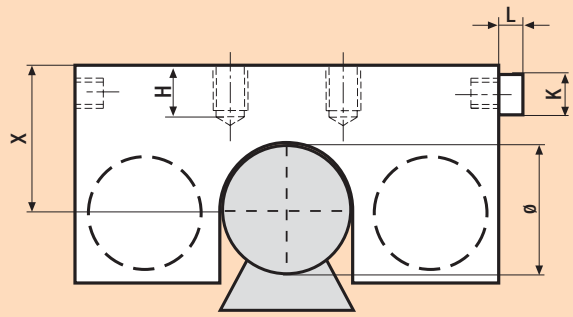
- Clamping element in case of pressure drop
- Clamping without pressure

**Connection possibilities:**

The basic versions of the series MKR/MKRS are fitted with air connections located on both sides and can be exchanged according to mounting requirements.







Air connections are located on both sides and can be exchanged according to mounting requirements. Only one connection is necessary for function.

- 1** MKR Series: Air filter
MKRS Series: M5 port (air connection)
- 2** MKR Series: M5 port (air connection)
MKRS Series: Air filter
- 3** Mounting of spring unit at MKS is omitted at MK.

Size of shaft [mm]	Item number	Fixing power [N] MKR	Fixing power [N] MKRS	A [mm]	B [mm]	X [mm]	E [mm]	F _a [mm]	F _b [mm]	G	H [mm]	M [mm]	L [mm]	K [mm]
12	MKR/MKRS 1200 A	650	400	51	37	18	11	15	15	M5	6	56	7	8
16	MKR/MKRS 1600 A	650	400	55	39	22	12,5	15	15	M5	6	58	5	8
20	MKR/MKRS 2000 A	1000	600	66	38	25	13	45	18	M8	10	60	5	8
25	MKR/MKRS 2500 A	1200	750	77	43	30	15	60	20	M10	12	63	5	8
30	MKR/MKRS 3000 A	1750	1050	92	48,5	35	14	68	25	M10	13	77,5	5	8
40	MKR/MKRS 4000 A	2250	1450	120	49	45	14	90	26	M10	15	82	5	8
50	MKR/MKRS 5000 A	3000	2000	132	49	50	9,5	108	30	M10	15	82	5	8
60	MKR/MKRS 6000 A	3000	2000	142	49	50	15	108	30	M10	15	82	5	8

For number code explanation see page 11