

Narrow and low design (S2/S3): The Clamping and Braking Element with spring-loaded energy storage LBPS

The LBPS series is set apart by the narrow and low design to DIN645-1 and the high holding forces.

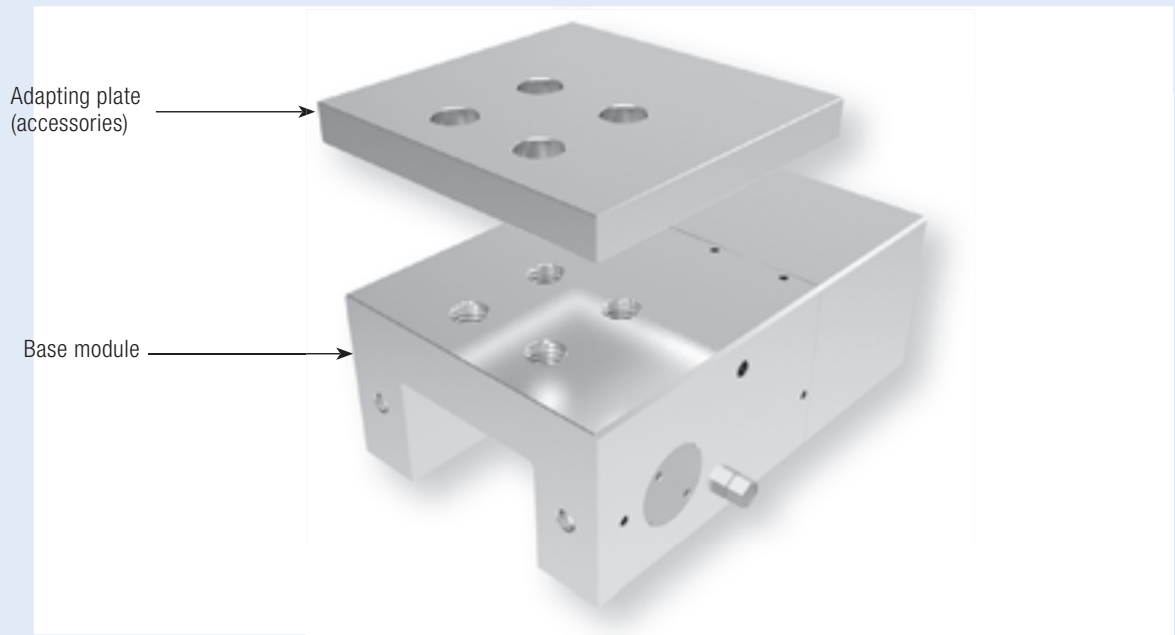
The LBPS series is a low-cost clamping and braking element available for rail sizes 15–55.

The LBPS series is designed for braking on linear guides. Because of the material combination of the linear guide/contact section, the linear guide won't be damaged by the contact section.

The LBPS is closed by a spring-loaded energy storage and opened under the impact of air. At a pneumatic opening pressure of 5.5 bar, a retention force of up to 3,600 N is achieved.

Details on the length of the brake path to be expected can be obtained from our technical advisors. The computations are based on serial tests and our industrial experience.

LBPS Series



Technical data for LBPS series:

Rail size	15–55
Holding forces	400 N–3,600 N
Min. pressure	5.5 bar
Max. pressure	8 bar
Spring-loaded energy storage	√
PLUS connection	-
Clamping cycles	5 mil. (B10d-value)
Braking cycles	2,000

Application scenarios for LBPS:

- Clamping in case of pressure drop
- Emergency OFF function
- Clamping without energy requirement
- Braking for linear motors

Connection options for LBPS:

The LBPS series have air connections on both sides as part of their standard equipment. This means that the air connection and the air-release filter can be moved over to the opposite side.

Adapting plate accessory for LBPS:

Depending on the height of the carriage (measure D), an additional adapting plate is required (see table from page 94).



Type of rail	Size	Type of carriage	Item number	Adapting plate (for height compensation)	Measure D [mm]	Measure table (page 99)
SR, SSR	15	SR..W, SR..WM, SR..V, SR..VM, SSR..XW, SSR..XWM, SSR..XV, SSR..XVM	LBPS 1501 AS2		24	1
	20	SR..W, SR..WM, SR..V, SR..VM, SSR..XW, SSR..XWM, SSR..XV, SSR..XVM	LBPS 2001 AS2		28	3
	25	SR..W, SR..WM, SR..V, SR..VM, SSR..XW, SSR..XWM, SSR..XV, SSR..XVM	LBPS 2501 AS2		33	5
	30	SR..W, SR..WM, SR..V, SR..VM, SSR..XW, SSR..XWM	⊙		42	⊙
	35	SR..W, SR..WM, SR..V, SR..VM, SSR..XW	⊙		48	⊙
	45	SR..W	⊙		60	⊙
HSR	15	HSR..R, HSR..RM, HSR..YR, HSR..YRM	LBPS 1501 AS2	PLK 15-4	28	1
	20	HSR..R, HSR..RM, HSR..LR, HSR..LRM, HSR..R, HSR..YR, HSR..YRM	LBPS 2001 AS2		30	2
	25	HSR..R, HSR..RM, HSR..LR, HSR..LRM, HSR..R, HSR..YR, HSR..YRM	LBPS 2501 AS2	PLK 25-4	40	4
	30	HSR..R, HSR..RM, HSR..LR, HSR..LRM, HSR..R, HSR..YR, HSR..YRM	⊙		45	⊙
	35	HSR..R, HSR..RM, HSR..LR, HSR..LRM, HSR..R, HSR..YR, HSR..YRM	⊙		55	⊙
	45	HSR..R, HSR..LR, HSR..YR	⊙		70	⊙
SHS	15	SHS..V, SHS..LV	LBPS 1501 AS2		24	1
		SHS..R	LBPS 1501 AS2	PLK 15-4	28	
	20	SHS..V, SHS..LV	LBPS 2001 AS2		30	3
	25	SHS..V, SHS..LV	LBPS 2501 AS2	PLK 25-2	36	6
		SHS..R, SHS..LR	LBPS 2501 AS2	PLK 25-6	40	
	30	SHS..V, SHS..LV	⊙		42	⊙
		SHS..R, SHS..LR	⊙		45	
	35	SHS..V, SHS..LV	⊙		48	⊙
		SHS..R, SHS..LR	⊙		55	
	45	SHS..V, SHS..LV	⊙		60	⊙
SRG	15	SRG..V	LBPS 1501 AS2		24	1
	20	SRG..V, SRG..LV	LBPS 2001 AS2		30	2
	25	SRG..R, SRG..LR	LBPS 2501 AS2		40	4
	30	SRG..R, SRG..LR	⊙		45	⊙
	35	SRG..R, SRG..LR	⊙		55	⊙
	45	SRG..R, SRG..LR	⊙		70	⊙
	55	SRG..R, SRG..LR	⊙		80	⊙



R1605, R1607, R1645, R1647 R2045, R2047	15	R1622, R1623, R1632, R1662, R1666, R2011 R1621	LBPS 1505 AS2		24	1
	20	R1622, R1623, R1632, R1662, R1666, R2011	LBPS 1505 AS2	PLK 15-4	28	
	25	R1622, R1623, R1632, R1662, R1666, R2011 R1621, R1624	LBPS 2005 AS2		30	2
		R1622, R1623, R1632, R1662, R1666, R2011	LBPS 2505 AS2		36	4
	30	R1622, R1623, R1632, R1662, R1666, R2011 R1621, R1624	LBPS 2505 AS2	PLK 25-4	40	
		R1622, R1623, R1632, R1662, R1666, R2011	⊙		42	⊙
		R1621, R1624	⊙		45	
	35	R1622, R1623, R1632, R1662, R1666, R2011 R1621, R1624	⊙		48	⊙
		R1622, R1623, R1632, R1662, R1666, R2011	⊙		55	
	45	R1622, R1623, R1621, R1624	⊙		60	⊙
R1805, R1806, R1807	55	R1622, R1623, R1621, R1624	⊙		70	⊙
		R1621, R1624	⊙		80	⊙
	25	R1821, R1824	LBPS 2505 BS2	PLK 25-4	40	4
	35	R1821, R1824	⊙		55	⊙
	45	R1821, R1824	⊙		70	⊙
	55	R1821, R1824	⊙		80	⊙



MRS	25	MRW..C, MRW..D, MRW..E	LBPS 2501 AS2	PLK 25-4	40	4
	35	MRW..C, MRW..D, MRW..E	⊙		55	⊙
	45	MRW..C, MRW..D	⊙		70	⊙
	55	MRW..C, MRW..D	⊙		80	⊙

*1 Supplements the measure table and datasheet

See page 11 for part number explanation

Type of rail	Size		Item number	[for height compensation]	Measure D [mm]	[page 99]
LWH	15	LWHS..B, LWHS..SL, LWHS..M	LBPS 1501 AS2		24	1
		LWHD..B, LWHD..M, LWHY	LBPS 1501 AS2	PLK 15-4	28	
	20	LWHS..B, LWHS..SL, LWHS..M, LWHSG, LWHY	LBPS 2001 AS2		30	2
		LWHD..B, LWHD..M, LWHDG, LWHY	LBPS 2501 AS2		36	4
	25	LWHS..B, LWHS..SL, LWHS..M, LWHSG	LBPS 2501 AS2		40	
		LWHD..B, LWHD..M, LWHDG, LWHY	LBPS 2501 AS2	PLK 25-4	42	⊗
	30	LWHS..B, LWHS..SL, LWHS..M, LWHSG	⊗		45	⊗
		LWHD..B, LWHD..M, LWHDG, LWHY	⊗		55	⊗
	35	LWHD..B, LWHD..M, LWHDG, LWHY	⊗		70	⊗
LWHD..B, LWHD..M, LWHDG, LWHY		⊗		80	⊗	
MH	15	MHS	LBPS 1501 AS2		24	1
		MHD	LBPS 1501 AS2	PLK 15-4	28	
	20	MHS, MHS	LBPS 2001 AS2		30	2
		MHS, MHS	LBPS 2501 AS2		36	4
	25	MHD, MHDG	LBPS 2501 AS2	PLK 25-4	40	
		MHS, MHS	⊗		42	⊗
	30	MHD, MHDG	⊗		45	⊗
		MHD, MHDG	⊗		55	⊗
	35	MHD, MHDG	⊗		70	⊗
MHD, MHDG		⊗		80	⊗	
LRX	15	LRXSC, LRXS, LRXSG	LBPS 1501 AS2		24	1
		LRXDC, LRXDC..SL, LRXD, LRXD..SL, LRXDG, LRXDG..SL	LBPS 1501 AS2	PLK 15-4	28	
	20	LRXSC, LRXS, LRXSG	⊗		30	⊗
		LRXDC, LRXDC..SL, LRXD, LRXD..SL, LRXDG, LRXDG..SL	⊗		34	⊗
	25	LRXSC, LRXS, LRXSG	LBPS 2501 AS2		36	4
		LRXDC, LRXDC..SL, LRXD, LRXD..SL, LRXDG, LRXDG..SL	LBPS 2501 AS2	PLK 25-4	40	
	30	LRXSC, LRXS, LRXSG	⊗		42	⊗
		LRXDC, LRXDC..SL, LRXD, LRXD..SL, LRXDG, LRXDG..SL	⊗		45	⊗
	35	LRXDC, LRXD, LRXDG	⊗		55	⊗
LRXDC, LRXD, LRXDG		⊗		70	⊗	
55	LRXDC, LRXD, LRXDG	⊗		80	⊗	
MX	15	MXSC, MXS, MXSG	LBPS 1501 AS2		24	1
		MXDC, MXD, MXDG	LBPS 1501 AS2	PLK 15-4	28	
	20	MXSC, MXS, MXSG, MXSL	⊗		30	⊗
		MXDC, MXD, MXDG, MXDL	⊗		34	
	25	MXSC, MXS, MXSG, MXSL	LBPS 2501 AS2		36	4
		MXDC, MXD, MXDG, MXDL	LBPS 2501 AS2	PLK 25-4	40	
	30	MXSC, MXS, MXSG, MXSL	⊗		42	⊗
		MXDC, MXD, MXDG, MXDL	⊗		45	⊗
	35	MXNS, MXNSG	⊗		44	⊗
MXNS, MXNSG		⊗		52	⊗	
55	MXNS, MXNSG	⊗		63	⊗	
LWE	15	LWES..Q, LWESC, LWESC..SL, LWES, LWES..SL, LWESG, LWESG..SL	LBPS 1501 AS2		24	1
	20	LWES..Q, LWESC, LWESC..SL, LWES, LWES..SL, LWESG, LWESG..SL	LBPS 2001 AS2		28	3
	25	LWES..Q, LWESC, LWESC..SL, LWES, LWES..SL, LWESG, LWESG..SL	LBPS 2501 AS2		33	5
	30	LWES..Q, LWESC, LWESC..SL, LWES, LWES..SL, LWESG, LWESG..SL	⊗		42	⊗
	35	LWES..Q, LWESC, LWES	⊗		48	⊗
45	LWES	⊗		60	⊗	
ME	15	MESC, MESC..SL, MES, MES..SL, MESG, MESG..SL, MHS	LBPS 1501 AS2		24	1
		MHD	LBPS 1501 AS2	PLK 15-4	28	
	20	MESC, MESC..SL, MES, MES..SL, MESG, MESG..SL	LBPS 2001 AS2		28	3
		MHS, MHS	LBPS 2001 AS2	PLK 20-2	30	
	25	MESC, MESC..SL, MES, MES..SL, MESG, MESG..SL	LBPS 2501 AS2		33	5
		MHS, MHS	LBPS 2501 AS2	PLK 25-2	36	6
	30	MHD, MHDG	LBPS 2501 AS2	PLK 25-6	40	
		MESC, MESC..SL, MES, MES..SL, MESG, MESG..SL, MHS, MHS	⊗		42	⊗
	35	MHD, MHDG	⊗		45	⊗
		MESC, MES	⊗		48	⊗
	45	MHD, MHDG	⊗		55	⊗
		MES	⊗		60	⊗
		MHD, MHDG	⊗		70	⊗

LRX: this table applies only for rail use without cover sheet!

*1 Supplements the measure table and datasheet

See page 11 for part number explanation

Rail manufacturer
IKO

LBPS

Rail manufacturer



Type of rail	Size	Type of carriage	Item number	Adapting plate (for height compensation)	Measure D [mm] ^{*1}	Measure table (page 99)
(KUE)	15	KWE...-H	⊗		28	⊗
	20	KWE...-H	LBPS 2001 AS2		30	2
	25	KWE...-H	LBPS 2501 AS2	PLK 25-6	40	6
	30	KWE...-H	⊗		45	⊗
	35	KWE...-H	⊗		55	⊗
TKVD (KUE)	15	KWE...-B-ESC, KWVE...-B-S	⊗		24	⊗
		KWE...-B-H	⊗		28	⊗
	20	KWE...-B-S, KWVE...-B-SL, KWVE...-B-H	⊗		30	⊗
		KWE...-B-SN, KWVE...-B-SNL	⊗		27	⊗
		KWE...-B-ESC	⊗		28	⊗
	25	KWE...-B-S, KWVE...-B-SL, KWVE...-B-S-HS	⊗		36	⊗
		KWE...-B-ESC	⊗		33	⊗
	30	KWE...-B-H, KWVE...-B-HL, KWVE...-B-H-HS	⊗		40	⊗
		KWE...-B-ESC, KWVE...-B-S, KWVE...-B-SL	⊗		42	⊗
		KWE...-B-SN, KWVE...-B-SNL	⊗		38	⊗
		KWE...-B-H, KWVE...-B-HL	⊗		45	⊗
	35	KWE...-B-ESC, KWVE...-B-S, KWVE...-B-SL	⊗		48	⊗
		KWE...-B-SN, KWVE...-B-SNL	⊗		44	⊗
		KWE...-B-H, KWVE...-B-HL	⊗		55	⊗
	45	KWE...-B-ESC, KWVE...-B-S, KWVE...-B-SL	⊗		60	⊗
		KWE...-B-SN, KWVE...-B-SNL	⊗		52	⊗
		KWE...-B-H, KWVE...-B-HL	⊗		70	⊗
KWE...-B-S, KWVE...-B-SL		⊗		70	⊗	
TKSD (KUE)	20	KWSE...-H, KWSE...-HL	LBPS 2001 AS2		30	2
	25	KWSE...-H, KWSE...-HL	LBPS 2501 AS2		36	4
	30	KWSE...-H, KWSE...-HL	⊗		42	⊗

NSK

LH	15	LAH...ANZ, LAH...BNZ	LBPS 1501 AS2	PLK 15-4	28	1
	20	LAH...ANZ, LAH...BNZ	LBPS 2001 AS2	PLK 20-2	30	3
	25	LAH...ALZ, LAH...BLZ	LBPS 2501 AS2		36	6
		LAH...ANZ, LAH...BNZ	LBPS 2501 AS2	PLK 25-6	40	
	30	LAH...ALZ, LAH...BLZ	⊗		42	⊗
		LAH...ANZ, LAH...BNZ	⊗		45	⊗
	35	LAH...ALZ, LAH...BLZ	⊗		48	⊗
LAH...ANZ, LAH...BNZ		⊗		55	⊗	
SH	15	SAH...ANZ, SAH...BNZ	LBPS 1501 AS2	PLK 15-4	28	1
	20	SAH...ANZ, SAH...BNZ	LBPS 2001 AS2	PLK 20-2	30	3
	25	SAH...ALZ, SAH...BLZ	LBPS 2501 AS2		36	6
		SAH...ANZ, SAH...BNZ	LBPS 2501 AS2	PLK 25-6	40	
	30	SAH...ALZ, SAH...BLZ	⊗		42	⊗
		SAH...ANZ, SAH...BNZ	⊗		45	⊗
	35	SAH...ALZ, SAH...BLZ	⊗		48	⊗
SAH...ANZ, SAH...BNZ		⊗		55	⊗	
LS	15	LAS...CLZ, LAS...ALZ	LBPS 1501 AS2		24	1
	20	LAS...CLZ, LAS...ALZ	LBPS 2001 AS2		28	3
	25	LAS...CLZ, LAS...ALZ	LBPS 2501 AS2		33	5
	30	LAS...CLZ, LAS...ALZ	⊗		42	⊗
	35	LAS...CLZ, LAS...ALZ	⊗		48	⊗
SS	15	SAS...CLZ, SAS...ALZ	LBPS 1501 AS2		24	1
	20	SAS...CLZ, SAS...ALZ	LBPS 2001 AS2		28	3
	25	SAS...CLZ, SAS...ALZ	LBPS 2501 AS2		33	5
	30	SAS...CLZ, SAS...ALZ	⊗		42	⊗
	35	SAS...CLZ, SAS...ALZ	⊗		48	⊗
RA	15	RA...AL, RA...BL	⊗		24	⊗
		RA...AN, RA...BN	⊗		28	⊗
	20	RA...EM, RA...GM, RA...AN, RA...BN	⊗		30	⊗
		RA...AL, RA...BL	⊗		36	⊗
	25	RA...AN, RA...BN	⊗		40	⊗
		RA...AL, RA...BL	⊗		42	⊗
	30	RA...AN, RA...BN	⊗		45	⊗
		RA...AL, RA...BL	⊗		48	⊗
	35	RA...AN, RA...BN	⊗		55	⊗
		RA...AL, RA...BL	⊗		60	⊗
	45	RA...AN, RA...BN	⊗		70	⊗
		RA...AL, RA...BL	⊗		70	⊗
	55	RA...AL, RA...BL	⊗		70	⊗
RA...AN, RA...BN		⊗		80	⊗	

*1 Supplements the measure table and datasheet

See page 11 for part number explanation

Type of rail	Size	Item number	(for height compensation)	Measure D [mm]	*	
HGR..R, HGR..T	15	HGL..CA, HGH..CA, QHH..CA	LBPS 1501 AS2		24	1
			LBPS 1501 AS2	PLK 15-4	28	
	20	HGH..CA, HGH..HA, QHH..CA, QHH..HA	LBPS 2001 AS2		30	3
				PLK 20-2	30	
	25	HGL..CA, HGL..HA HGH..CA, HGH..HA, QHH..CA, QHH..HA	LBPS 2501 AS2		36	4
			LBPS 2501 AS2	PLK 25-4	40	
	30	HGL..CA, HGL..HA HGH..CA, HGH..HA, QHH..CA, QHH..HA	⊗		42	⊗
			⊗		45	⊗
	35	HGL..CA, HGL..HA HGH..CA, HGH..HA, QHH..CA, QHH..HA	⊗		48	⊗
			⊗		55	⊗
	45	HGL..CA, HGL..HA HGH..CA, HGH..HA, QHH..CA, QHH..HA	⊗		60	⊗
			⊗		70	⊗
	55	HGL..CA, HGL..HA HGH..CA, HGH..HA	⊗		70	⊗
			⊗		80	⊗
EGR..R, EGR..U, EGR..T	15	EGH...SA, EGH...CA, QEH...SA, QEH...CA	LBPS 1501 AS2		24	1
	20	EGH...SA, EGH...CA, QEH...SA, QEH...CA	LBPS 2001 AS2		28	3
	25	EGH...SA, EGH...CA QEH...SA, QEH...CA	⊗		33	⊗
	30	EGH...SA, EGH...CA, QEH...SA, QEH...CA	⊗		42	⊗
	35	EGH...SA, EGH...CA	⊗		48	⊗
RG..T	15	RGH..CA	⊗		28	⊗
	20	RGH..CA, RGH..HA	⊗		34	⊗
	25	RGH..CA, RGH..HA	LBPS 2501 AS2	PLK 25-4	40	4
	30	RGH..CA, RGH..HA	⊗		45	⊗
	35	RGH..CA, RGH..HA	⊗		55	⊗
	45	RGH..CA, RGH..HA	⊗		70	⊗
	55	RGH..CA, RGH..HA	⊗		80	⊗

Rail manufacturer
HIWIN
Lineartechnologie

BG	15	BGCS..BS, BGCS..BN, BGCS..BL, BGXS..BS, BGXS..BN, BGXS..BL	LBPS 1501 AS2		24	1
		BGCH..BN, BGXH..BN	LBPS 1501 AS2	PLK 15-4	28	
	20	BGCS..BS, BGCS..BN, BGXS..BS, BGXS..BN BGCH..BN, BGCH..BL, BGXH..BN, BGXH..BL	LBPS 2001 AS2		28	3
			LBPS 2001 AS2	PLK 20-2	30	
	25	BGCS..BS, BGCS..BN, BGXS..BS, BGXS..BN BGCH..FN, BGCH..FL, BGCH..FE, BGCX..BN, BGCX..BL, BGCX..BE, BGXX..BN, BGXX..BL, BGXX..BE	LBPS 2501 AS2		33	5
			LBPS 2501 AS2	PLK 25-2	36	6
	30	BGCH..BN, BGCH..BL, BGCH..BE, BGXH..BN, BGXH..BL, BGXH..BE	LBPS 2501 AS2	PLK 25-6	40	
		BGCH..FN, BGCH..FL, BGCH..FE, BGCS..BS, BGCS..BN, BGCS..BL, BGCS..BE, BGXS..BS, BGXS..BN, BGXS..BL, BGXS..BE	⊗		42	⊗
	35	BGCH..BN, BGCH..BL, BGCH..BE, BGXH..BN, BGXH..BL, BGXH..BE	⊗		45	⊗
		BGCH..FN, BGCH..FL, BGCH..FE, BGCS..BS, BGCS..BN, BGCS..BL, BGCS..BE, BGXS..BS, BGXS..BN, BGXS..BL, BGXS..BE	⊗		48	⊗
	45	BGCH..BN, BGCH..BL, BGCH..BE, BGXH..BN, BGXH..BL, BGXH..BE	⊗		55	⊗
		BGCH..FN, BGCH..FL, BGCH..FE, BGCS..BN, BGCS..BL, BGCS..BE, BGXS..BN, BGXS..BL, BGXS..BE	⊗		60	⊗
	55	BGCH..BN, BGCH..BL, BGCH..BE, BGXH..BN, BGXH..BL, BGXH..BE	⊗		70	⊗
		BGCH..FN, BGCH..FL, BGCH..FE, BGCS..BN, BGCS..BL, BGCS..BE, BGXS..BN, BGXS..BL, BGXS..BE	⊗		70	⊗
	BGCH..BN, BGCH..BL, BGCH..BE, BGXH..BN, BGXH..BL, BGXH..BE	⊗		80	⊗	

Rail manufacturer
NTN 

LBPS

*1 Supplements the measure table and datasheet

See page 11 for part number explanation

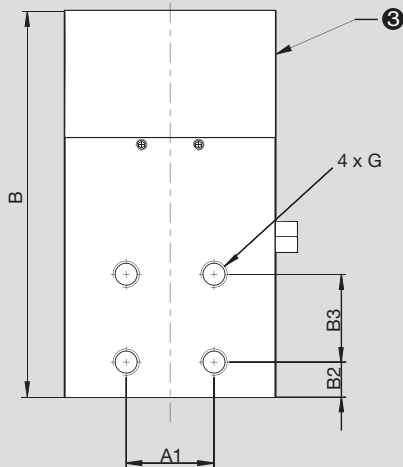
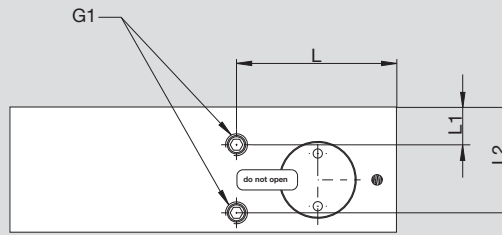
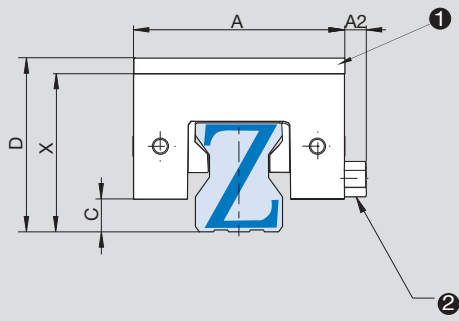
Rail manufacturer



Type of rail	Size	Type of carriage	Item number	Adapting plate (for height compensation)	Measure D [mm] ^{*1}	Measure table (page 99)
LLTH, LLTH..D4, LLTH..D6	15	LLTHC..SU, LLTHC..U	LBPS 1501 AS2		24	1
		LLTHC..R	LBPS 1501 AS2	PLK 15-4	28	
	20	LLTHC..SU, LLTHC..U, LLTHC..LR	LBPS 2001 AS2		30	3
		LLTHC..R, LLTHC..LR	LBPS 2501 AS2	PLK 20-2	36	4
	25	LLTHC..SU, LLTHC..U,			40	
		LLTHC..R, LLTHC..LR			42	⊗
	30	LLTHC..SU, LLTHC..U,			45	⊗
		LLTHC..R, LLTHC..LR			48	⊗
	35	LLTHC..SU, LLTHC..U,			55	⊗
		LLTHC..R, LLTHC..LR			60	⊗
	45	LLTHC..U,			70	⊗
		LLTHC..R, LLTHC..LR				

*1 Supplements the measure table and datasheet

See page 11 for part number explanation



Note: Consider measurement C/Interfering contour!

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

- ❶ Adapting plate PLK (accessory)
- ❷ Air filter
- ❸ Spring-loaded energy storage (LBPS)

Measure table	Holding power [N] LBPS	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B2 [mm]	B3 [mm]	C [mm]	X [mm]	G	G1	L [mm]	L1 [mm]	L2 [mm]
1	400	34	15	-	76	8,5	15	3,3	24	M4/4,5	M3	31,5	4,5	17
2	650	44	20	-	81	7	20	5,5	30	M5/5,5	M3	33,5	4,5	20,5
3	650	44	20	-	81	7	20	3,5	28	M5/5,5	M3	33,5	4,5	20,5
4	750	48	20	5	86	8	20	7,5	36	M6/6	M5	35,5	8,5	24
5	750	48	20	5	86	8	20	4,5	33	M6/6	M5	35,5	8,5	24
6	750	48	20	5	86	8	20	5,5	34	M6/6	M5	35,5	8,5	24