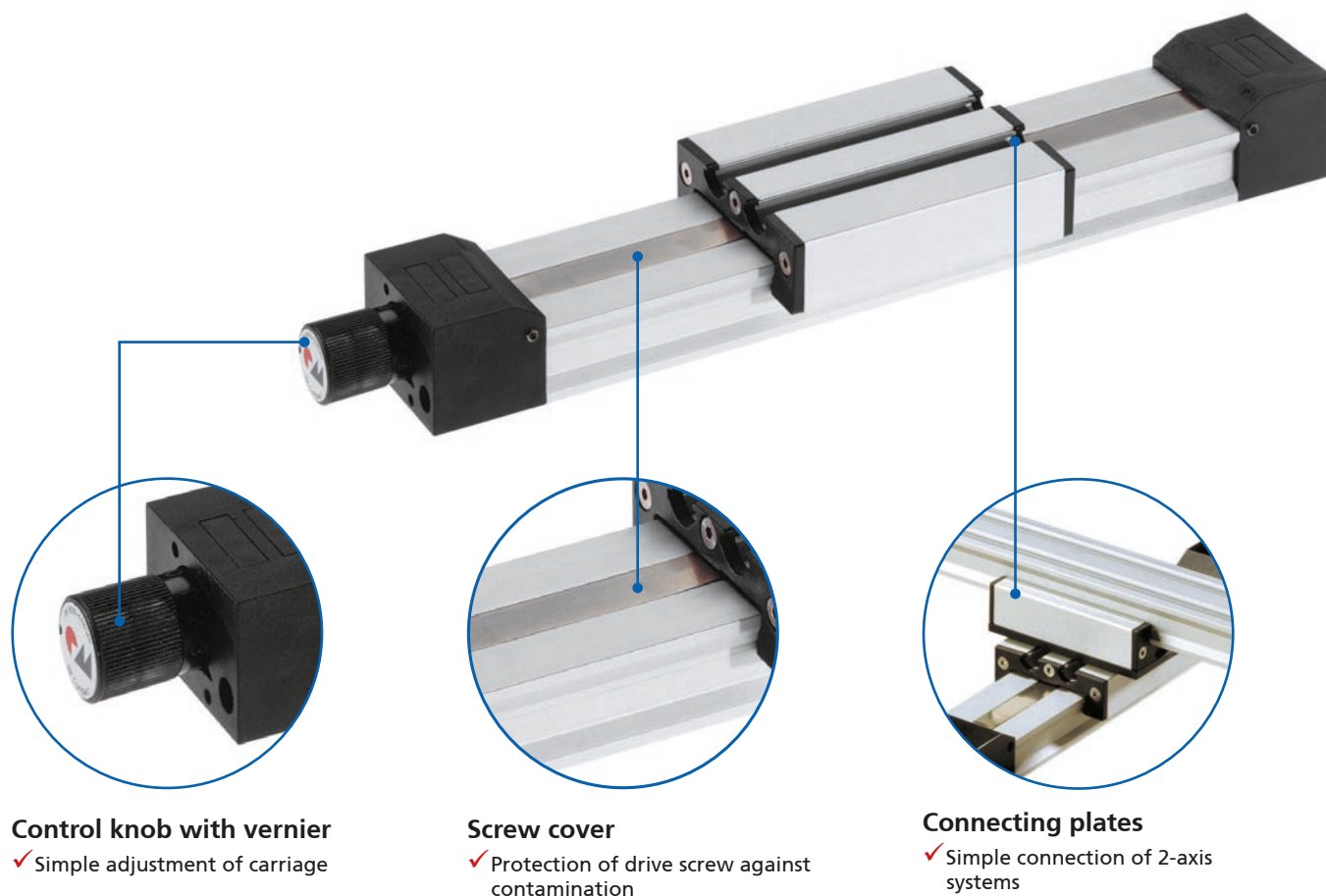


Profile guide/actuator – PLM

The small range for positioning small loads



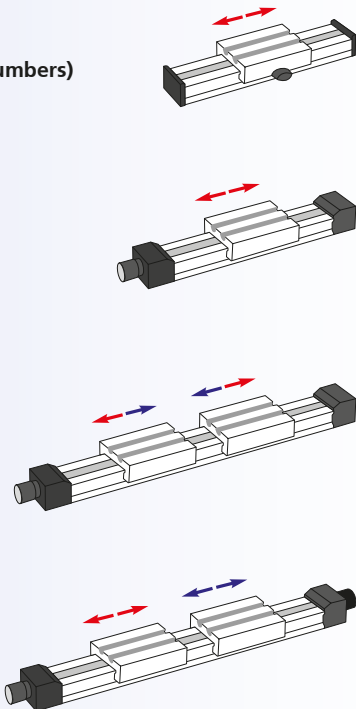
Features:

- Covered screw
- Sizes can be combined using standard accessories

Options:

- Second free-running carriage

PLM linear unit – Table of contents

Properties/Technical data		■ General information/operating conditions..... 170 ■ Load data..... 171 ■ Geometric moments of inertia..... 171
Versions (Dimensions, order numbers) 		■ Guide 172 - 173 ■ Right or lefthand thread 174 - 175 ■ Right <i>and</i> lefthand thread 176 - 177 ■ <i>Split</i> screw 178 - 179
Accessories	Fixing Drive Position determination	■ Fixing plate..... 180 ■ Slot stones 180 ■ Connecting plates 181 ■ Wing screw 182 ■ Handwheel 183 ■ Motor adaptor/coupling..... 183 ■ Positioning indicator..... 184 ■ Limit switch 186 - 187

General information/operating conditions

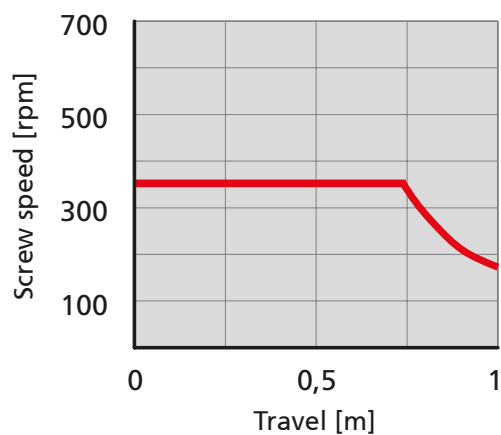
Design	Profile linear unit, steel cover strip
Guide	Adjustable slide guide
Installation position	Any position
Lead accuracy	± 0.1 mm/300 mm travel
Self-locking	Yes
Ambient temperature	0°C to + 60°C

Screw lead

Type	Screw lead [mm]
PLM 20 x 20	1
PLM 40 x 20	1

$$\text{Required screw speed } n \text{ [rpm]} = \frac{\text{speed [m/min]} \times 1000}{\text{screw lead [mm]}}$$

Critical screw speed



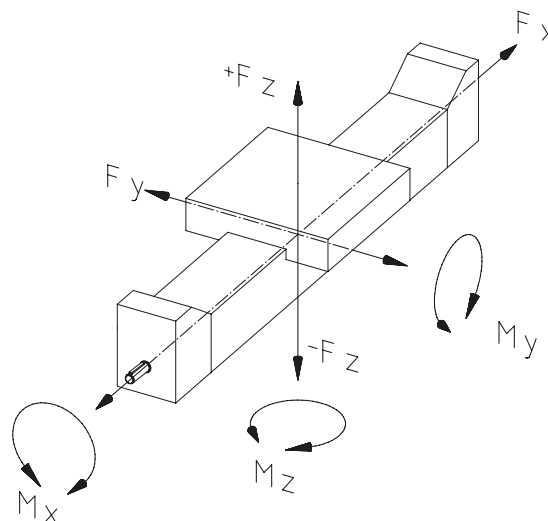
No-load torque

Type	No-load torque [Nm]
PLM 20 x 20	0.20
PLM 40 x 20	0.20

Load data*

F	Force [N]
M	Moment [Nm]
I	Geometric moment of inertia [cm ⁴]

* With reference to carriage (static values, guide element resting on full surface)

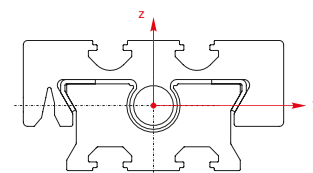


Type	F _x	F _y	+F _z	-F _z	M _x	M _y	M _z
PLM 20 x 20	125	160	90	180	3	10	10
PLM 40 x 20	125	200	110	220	4	14	14

Geometric moment of inertia

[cm⁴]

Type	I _y	I _z
PLM 20 x 20	0.64	0.74
PLM 40 x 20	1.32	5.01



PLM-G – Versions

Order instructions:

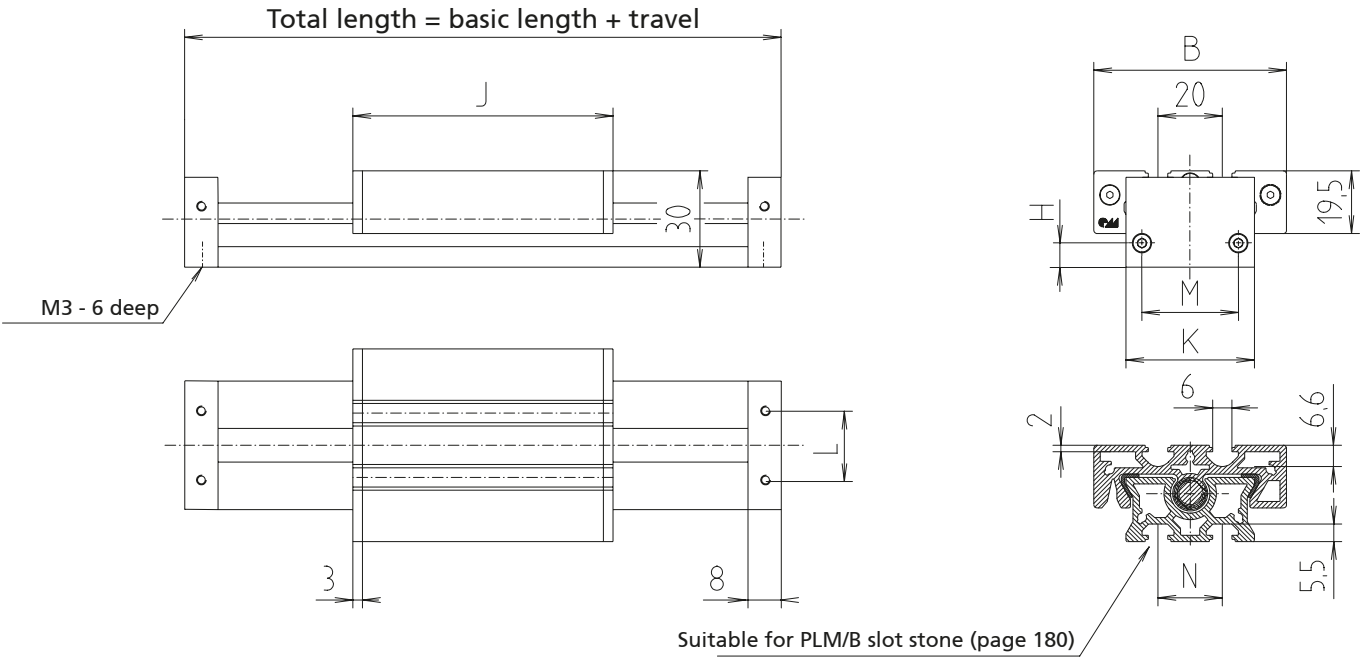
- Longer travel lengths on request
- Second carriage available on request

Version ■ **Guide**



Code No.	Type	Basic length	B	H	J	K	L	M	N
MKA2020AA	20	77	40	7.5	61	20	0	10	0
MKA4020AA	40 x 20	97	60	7.5	81	40	20	30	20

_____ Total length = basic length + travel [mm]



[mm]

Max. travel	Mass [kg]	
	Basic length	per 100 mm travel
2935	0.09	0.03
2915	0.19	0.07

Order instruction:

- Longer travel lengths on request

Version ■ Right or lefthand thread actuator

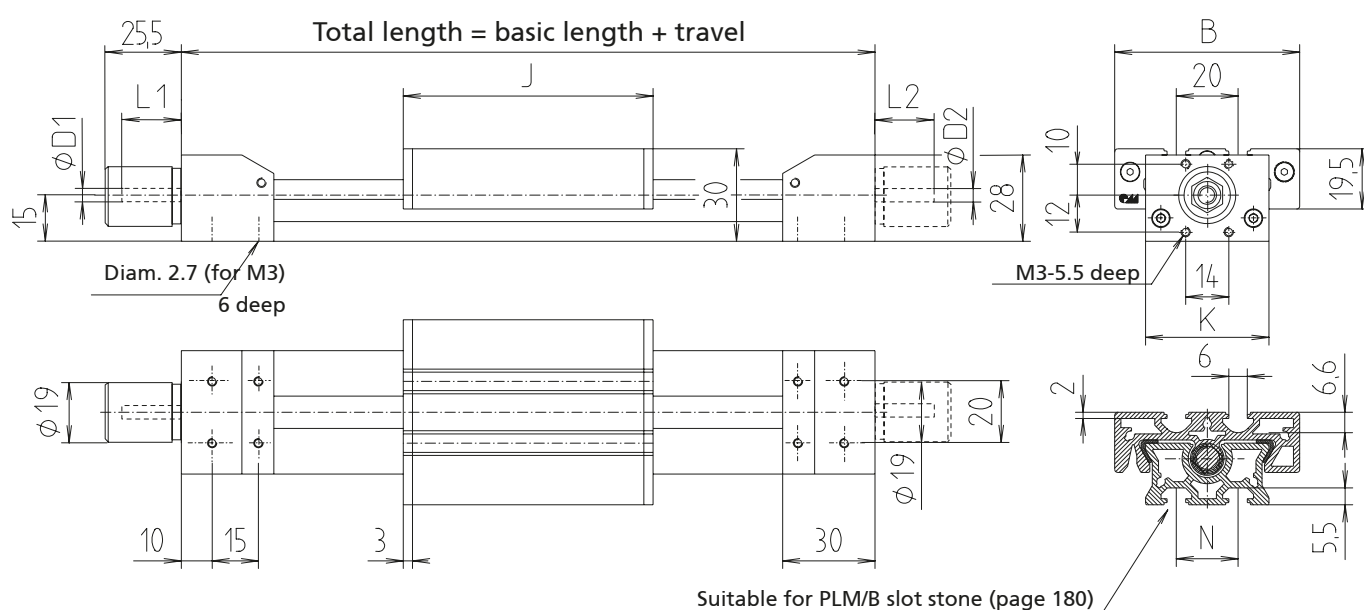


Code No.	Type	Screw	Basic length	B	D1	D2	J	K	L1	L2	N
FP_2020TA	20x20	M 8x1	121	40	5	–	61	20	21	–	0
FP_2020UA	20x20	M 8x1	121	40	5	5	61	20	21	21	0
FP_4020TA	40x20	M 8x1	141	60	5	–	81	40	21	–	20
FP_4020UA	40x20	M 8x1	141	60	5	5	81	40	21	21	20

----- Total length = basic length + travel [mm]

Version:

A = righthand thread
H = lefthand thread



[mm]

Max. travel	Mass [kg]	
	Basic length	per 100 mm travel
870	0,15	0,06
835	0,15	0,06
850	0,27	0,10
815	0,27	0,10

Order instructions:

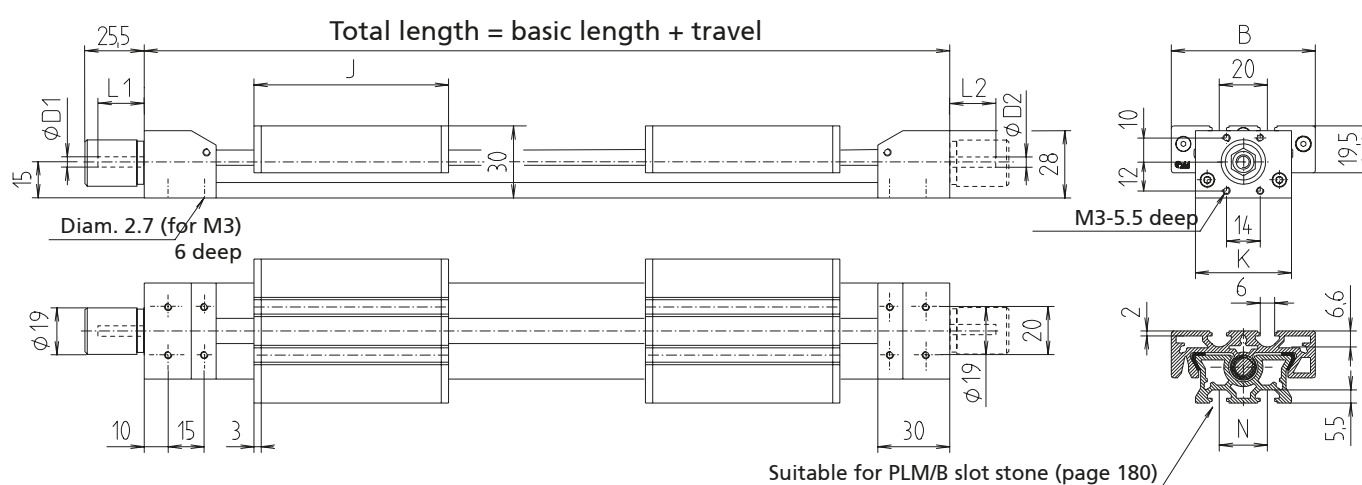
- Please specify total travel when placing an order
- Longer travel lengths on request

Version ■ **Right and lefthand thread actuator**



Code No.	Type	Screw	Basic length	B	D1	D2	J	K	L1	L2	N
FPC2020SA	20x20	M 8x1	182	40	5	–	61	20	21	–	0
FPC2020TA	20x20	M 8x1	182	40	–	5	61	20	–	21	0
FPC2020UA	20x20	M 8x1	182	40	5	5	61	20	21	21	0
FPC4020SA	40x20	M 8x1	222	60	5	–	81	40	21	–	20
FPC4020TA	40x20	M 8x1	222	60	–	5	81	40	–	21	20
FPC4020UA	40x20	M 8x1	222	60	5	5	81	40	21	21	20

_____ Total length = basic length + travel [mm]



[mm]

Max. travel	Mass [kg]	
	Basic length	per 100 mm travel
780	0,32	0,05
780	0,32	0,05
745	0,32	0,05
740	0,41	0,09
740	0,41	0,09
705	0,41	0,09

Order instructions:

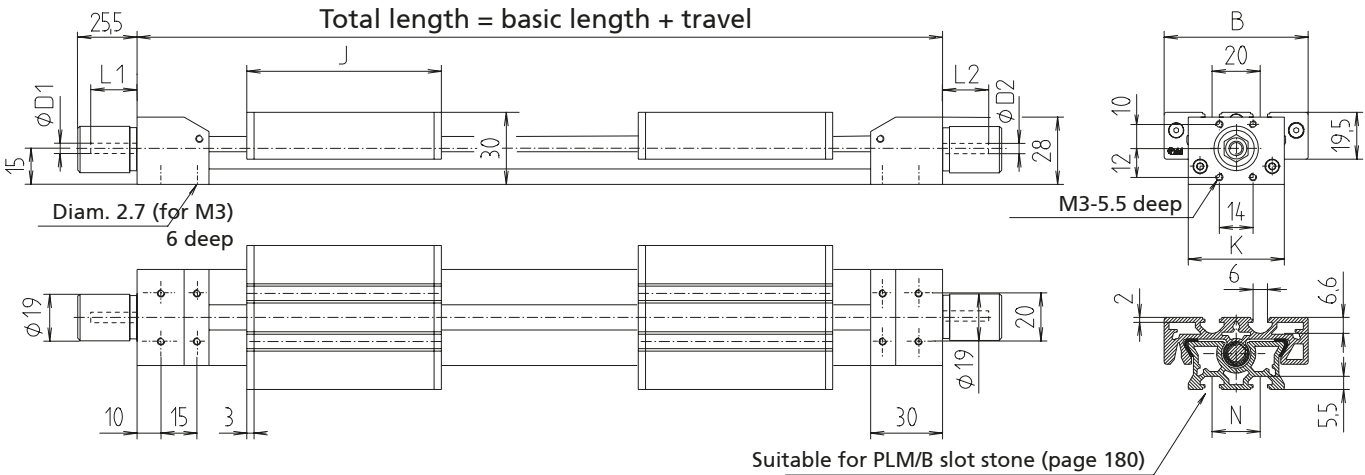
- Please specify total travel when placing an order
- Longer travel lengths on request

Version ■ *Split screw actuator*



Code No.	Type	Screw	Basic length	B	D1	D2	J	K	L1	L2	N
FPD2020UA	20 x 20	M8 x 1	182	40	5	5	61	20	21	21	0
FPD4020UA	40 x 20	M8 x 1	222	60	5	5	81	40	21	21	20

----- Total length = basic length + travel [mm]



[mm]

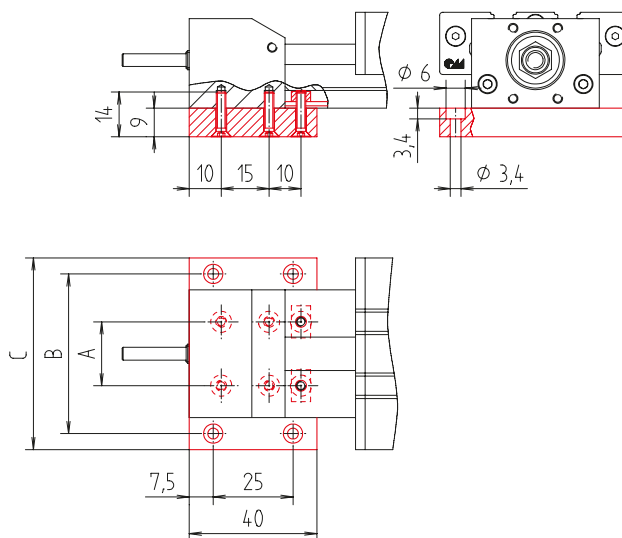
Max. travel	Mass [kg]	
	Basic length	per 100 mm travel
770	0.32	0.05
730	0.41	0.09

Fixing plate



- Incl. fastenings
- Freewheel for limit switch holder

Material: ALMgSi, black anodised



[mm]

Code No.	Type	A	B	C
94320	PLM 20 x 20	–	30	40
94321	PLM 40 x 20	20	50	60

Order instruction square nut:

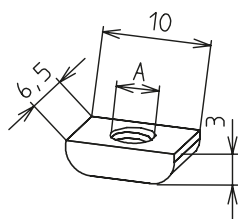
- Purchase only in lot sizes and a multiple of that, see product table below

- Slot stones can be inserted and positioned on the guide profile and carriage

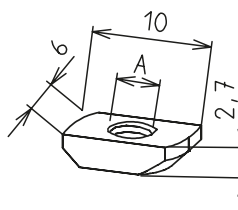
Material: zinc plated steel

Slot stones

Slot stone -PLM-
can be slid into the slot



Slot stone -B-
can be swivelled into the slot



[mm]

Code No.	Type	lot sizes	A
E00037CEE	-PLM-	10, 20, 30... pcs	M 3
E00038CEE	-PLM-	10, 20, 30... pcs	M 4
E00039CEE	-PLM-	10, 20, 30... pcs	M 5
E00017CEE	-B-	10, 20, 30... pcs	M 3
E00058CEE	-B-	10, 20, 30... pcs	M 4

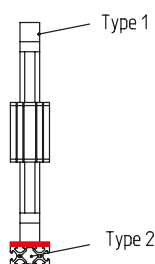
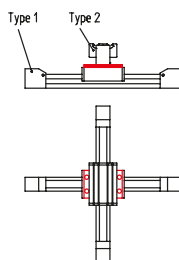
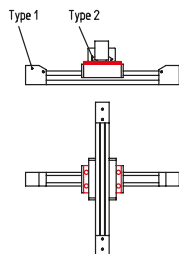
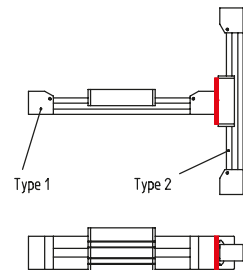
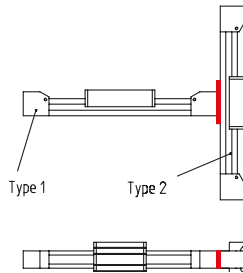


Connecting plate



- Simple connection of 2-axis systems
- Incl. fastenings
- Thickness of connecting plates: 4 mm

Material: AlMgSi, black anodised
Steel parts zinc plated

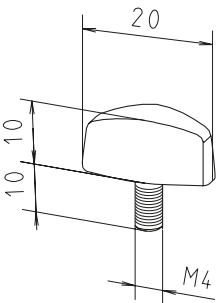


Code No.	Version	Type 1	Type 2
94331	Bearing element on guide profile	PLM 20 x 20	PLM 20 x 20
94330		PLM 40 x 20	PLM 20 x 20
94334		PLM 40 x 20	PLM 40 x 20
94333	Bearing element on carriage	PLM 20 x 20	PLM 20 x 20
94332		PLM 40 x 20	PLM 20 x 20
94335		PLM 40 x 20	PLM 40 x 20
94340	Carriage on carriage	PLM 20 x 20	PLM 20 x 20 PLM-G 20 x 20
94344		PLM 40 x 20	PLM 20 x 20 PLM-G 20 x 20
94342		PLM 40 x 20	PLM 40 x 20 PLM-G 40 x 20
94341	Carriage on guide profile	PLM 20 x 20	PLM 20 x 20 PLM-G 20 x 20
94345		PLM 40 x 20	PLM 20 x 20 PLM-G 20 x 20
94343		PLM 40 x 20	PLM 40 x 20 PLM-G 40 x 20
94350	Bearing element on guide profile	PLM 20 x 20	F-20 x 20
94351		PLM 20 x 20	F-40 x 20
94352		PLM 40 x 20	F-40 x 20

Wing screw

■ Slide clamp for
PLM 20 x 20 and 40 x 20

Material: Polyamide
zinc plated thread



[mm]	
Code No.	Type
90291	PLM 20 x 20/40 x 20

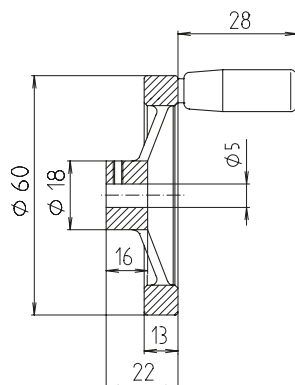


PLM – Drive

RK ROSE+KRIEGER

Handwheel

Material: Aluminium die casting
Wheel body, plastic-coated

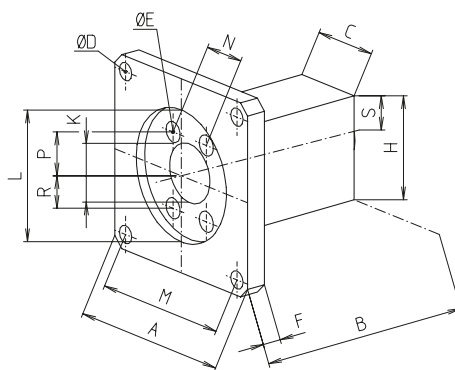
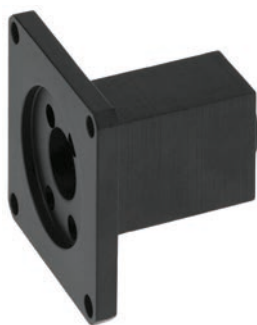


[mm]

Code No.	Type
909200	PLM 20/40 x 20

Motor adaptor/coupling

Material: Aluminium,
black anodised
zinc plated screws



[mm]

Code No.	Type/motor	□A	B	C	D	E	F	H	K	L	□M	N	P	R	S
Motor adaptor															
91462	PLM/ NEMA 17	41	55,5	22	3,5	3,5 / 6	6	30	17	22 ^{H7/3} deep	31	14	10	12	14
91472	PLM/ NEMA 23	56	52	22	5,2	3,5 / 6	6	30	17	38,1 ³ deep	47	14	10	12	14
Coupling															
9107140505	For motor acc. to NEMA 17, diam. 5/diam. 5														
9107140506	For motor acc. to NEMA 23, diam. 5/diam. 6.3														

PLM – Position determination

Positioning indicator

- Max ambient temperature +80°C
- Figure height 6 mm
- Reading accuracy ± 0.1 mm

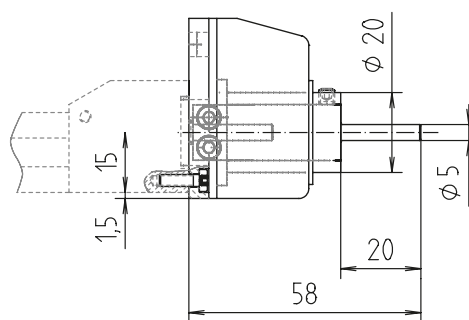
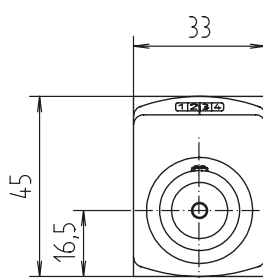
Material: Housing made of polyamide 6
Orange RAL 2004
Steel parts zinc plated

Scope of delivery: Positioning indicator, clamping ring, shaft extension and fastenings

Note: “rising” and “falling” versions refer to the clockwise rotation of the drive shaft.



Installation position:
horizontal



Installation position:
vertical

Code No.	Type	Version	Installation position
9101000	PLM 20 x 20/40 x 20	1 mm rising	Horizontal
9101010		1 mm falling	Horizontal
9101020		1 mm rising	Vertical
9101030		1 mm falling	Vertical



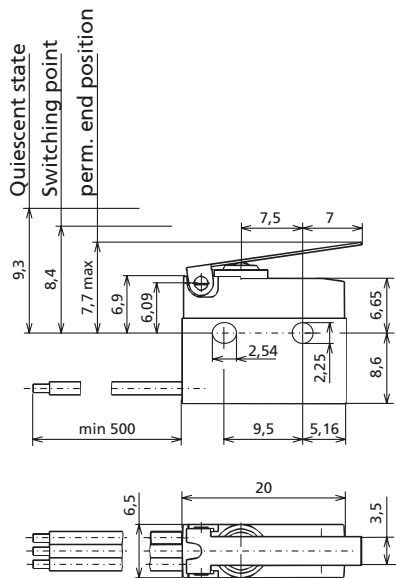
PLM – Position determination

Mechanical limit switch



- Single-pole changeover contact
- Compact design

Material: Housing, thermoplastic



Max. voltage	24 V (12 V)
Max. switching current	3 A (6 A)
Mechanical lifetime	1 x 10 ⁶ switching cycles
Protection class	IP 67
Ambient temperature	-40°C to +85°C
Connecting leads	0.75 mm ² , encapsulated in the switch

Code No.	Version
91923	PLM

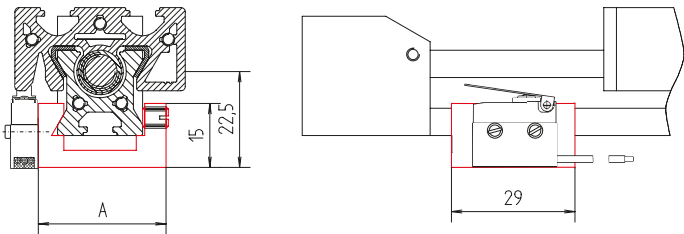
Limit switch holder



- Holder for guide profile
- Can be moved and fixed axially

Material: AlMgSi, black anodised
Steel parts zinc plated

Note: The Order No. does not include the limit switch!



Code No.	Type	A
92940	PLM 20 x 20	30
92941	PLM 40 x 20	50

[mm]

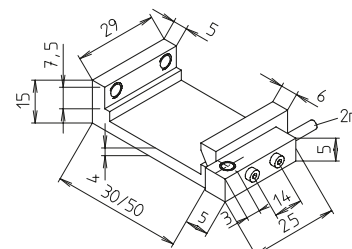
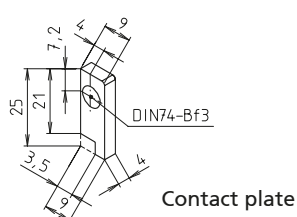
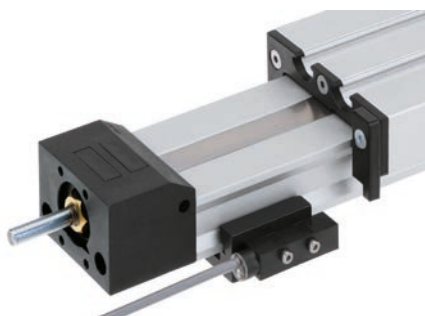


Inductive limit switch

- The holder can be moved along the guide profile and fixed

Material: Holder and contact plate made of black anodised aluminium, zinc plated fastenings

Scope of delivery: 1 limit switch with complete holder, contact plate and fastenings



Operating distance	2 mm
Voltage range:	10/-30 V DC
Current consumption:	< 18 mA
Max. switching frequency:	5 khz
Output:	PNP NC contact
Ambient temperature:	-25°C to +75°C

Code No.	Type	Version
92812	PLM 20 x 20	Right
92822	PLM 20 x 20	Left
928142	PLM 40 x 20	Right
928242	PLM 40 x 20	Left

