

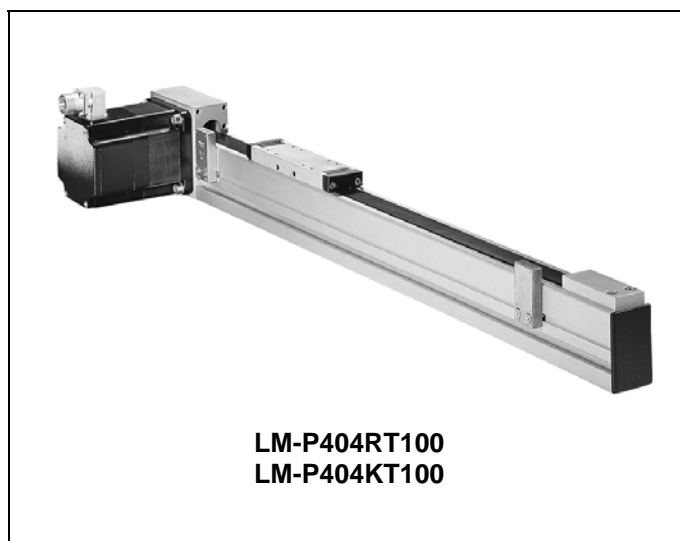
The portal axis **LM-P404** is used for applications, where loads up to 20 kg need to be moved through the working space.

The special extruded aluminium axis profile ensures high torsional and flexural strength as well as a low weight.

The axis is available with


- Roller or recirculating ball bearing guide

The axis can be driven by **Berger Lahr** 3-phase stepping or servomotors such as customer specified motors.





## Features

- Roller or recirculating ball bearing guide for optimised running characteristics.
- The guides can be lubricated from the outside, and require no further maintenance.
- Extruded aluminium profile with high torsional and flexural strength as well as a low weight.
- Axis available in corrosion resistant material.
- Versatile mounting possibilities due to the plain underside and "Item" compatible grooves on three sides of the profile.
- Stroke length up to 3000 mm. Cut to length.
- Trigger point for the limit switch is mounted in the profile groove and is moveable.

maximum load  **20 kg**

maximum stroke  **3000 mm**

maximum speed  **5 m/s**

maximum driving torque  **11 Nm**

## Versions

Type key						Description
LM-	P	404	R	T	100	
					100	stroke per revolution of the driving shaft
				T		Toothed belt
			R			Roller guide
			K			Circulating ball bearing guide
		404				Axis profile size
	P					Portal axis with driving motor
	S					Portal axis with driving shaft
	H					Supporting axis
LM						Linear module

E.g.: LM-P404RT100      Portal axis LM-P404 with roller guide, toothed belt and 100 mm stroke per revolution of the drive shaft

## Specifications

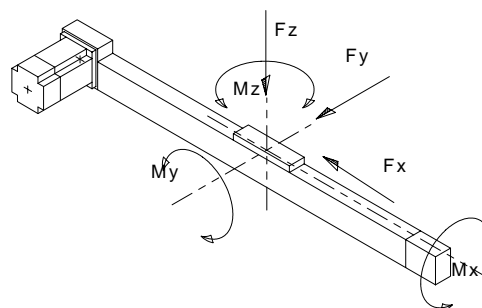
	LM-P404RT100	LM-P404KT100
max. load	10 kg	20 kg
max. stroke	3000 mm	3000 mm
min. stroke ①	110 mm	-
max. torque at the driving shaft	11 Nm	11 Nm
max. speed ②	5 m/s	5 m/s
repeatability	± 0,05 mm	± 0,05 mm
stroke per revolution of the driving shaft	100 mm	100 mm
effective diameter	31,83 mm	31,83 mm
rotational moment of inertia of the axis (without the motor)	0,32 kgcm <sup>2</sup>	0,32 kgcm <sup>2</sup>
power transmission	toothed belt b20 AT5	toothed belt b20 AT5
dead weight (zero stroke, without the motor)	2,45 kg	3,05 kg
weight per 100 mm	0,38 kg	0,43 kg
carriage length	150 mm	150 mm
carriage weight	0,3 kg	0,4 kg

① In case of smaller strokes the rollers do not touch the oil on the guide.

② Load and stroke dependent

## Maximum forces and torque

		LM-P404RT100	LM-P404KT100
max. force	F <sub>x</sub>	691 N	691 N
	F <sub>y</sub>	100 N	200 N
	F <sub>z</sub>	100 N	200 N
max. torque	M <sub>x</sub>	6,6 Nm	20 Nm
	M <sub>y</sub>	10 Nm	70 Nm
	M <sub>z</sub>	12 Nm	55 Nm

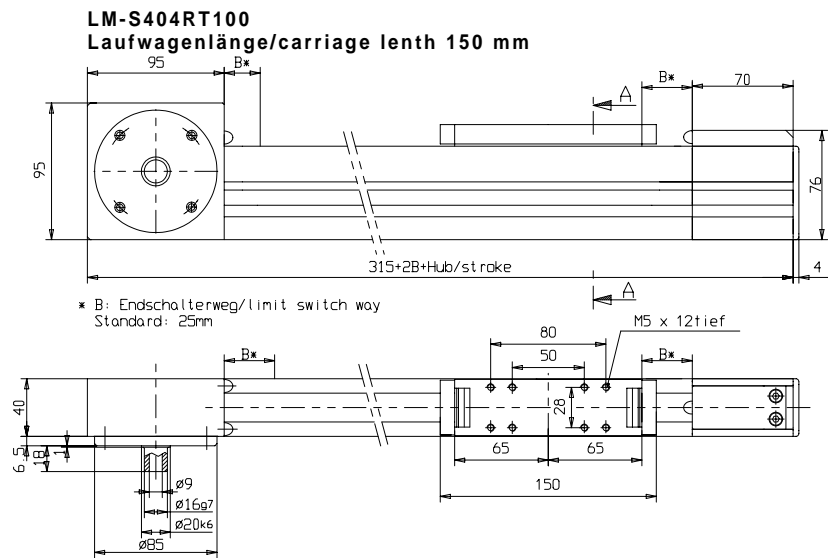
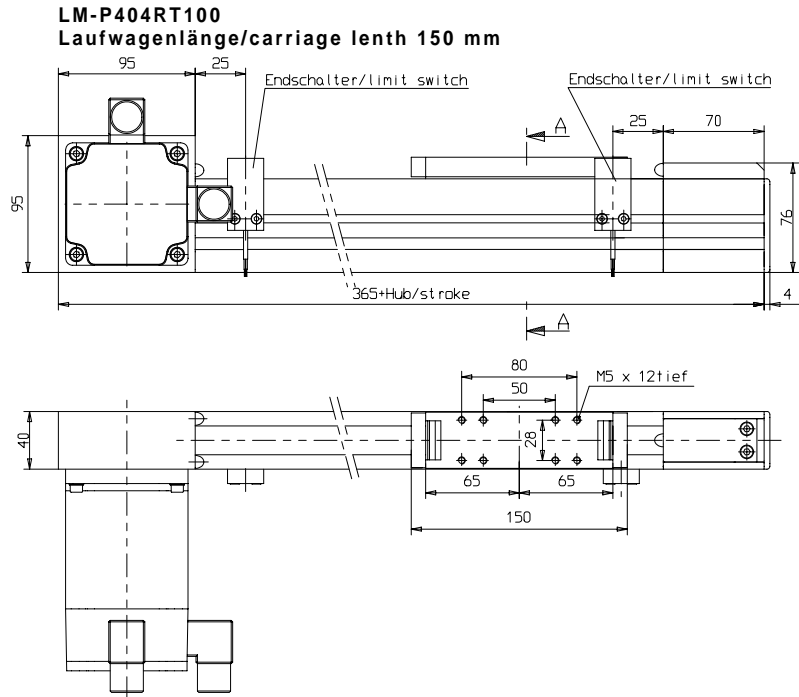
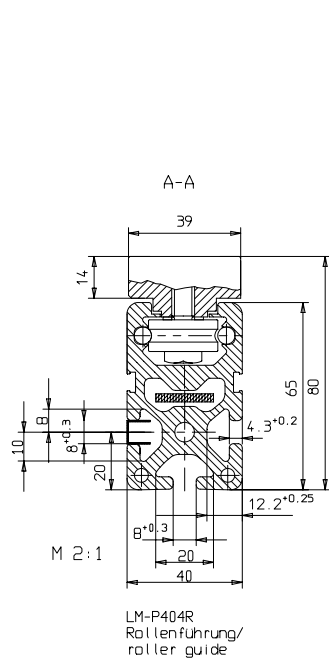


## Motors for LM-P404

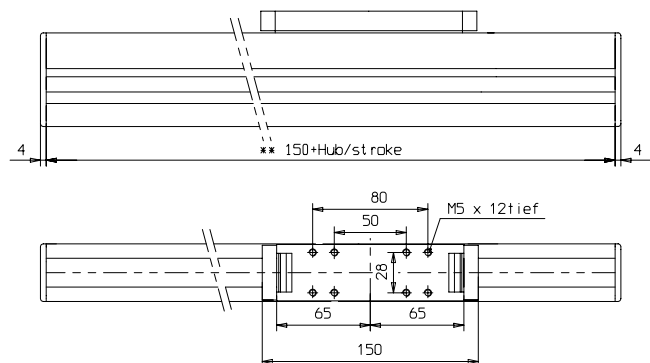
3-phase stepping motors	VRDM 397	VRDM 3910	VRDM 3913
max. torque	2 Nm	4 Nm	6 Nm
motor weight	2,5 kg	3,1 kg	4,2 kg

## Motors with gearbox for LM-P404

3-phase stepping motor with gearbox	VRDM 3910 with PLE80 (3:1)	VRDM 3913 with PLE80 (3:1)
max. torque	10 Nm	15 Nm
weight	5,2 kg	6,3 kg



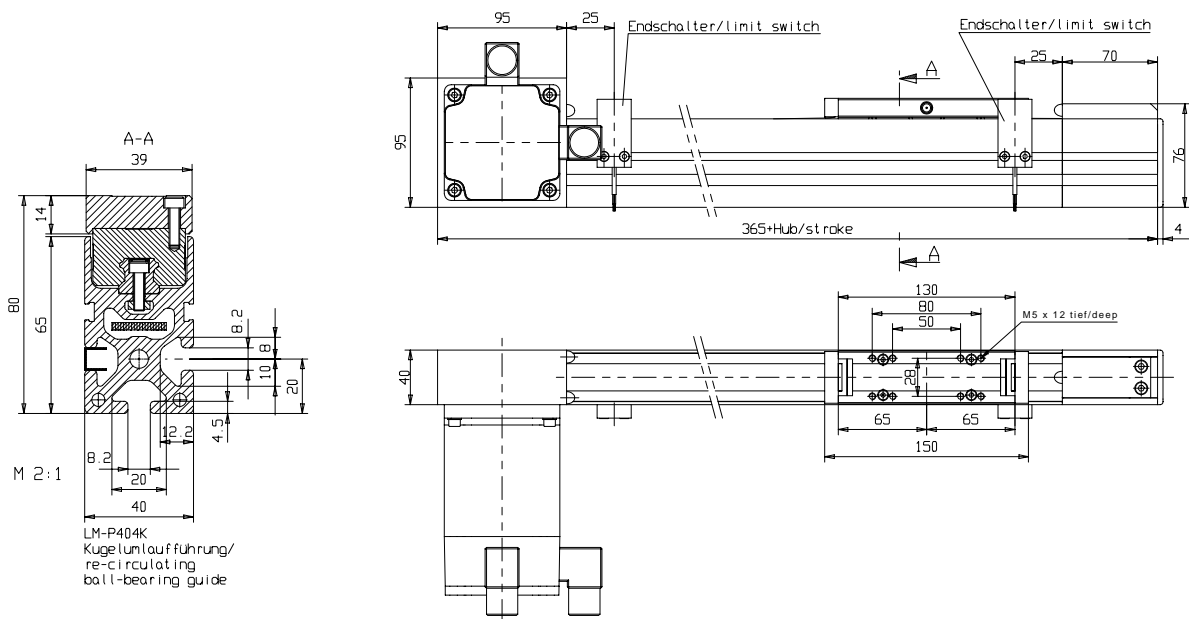
LM-H404R  
Laufwagenlänge/carriage length 150 mm



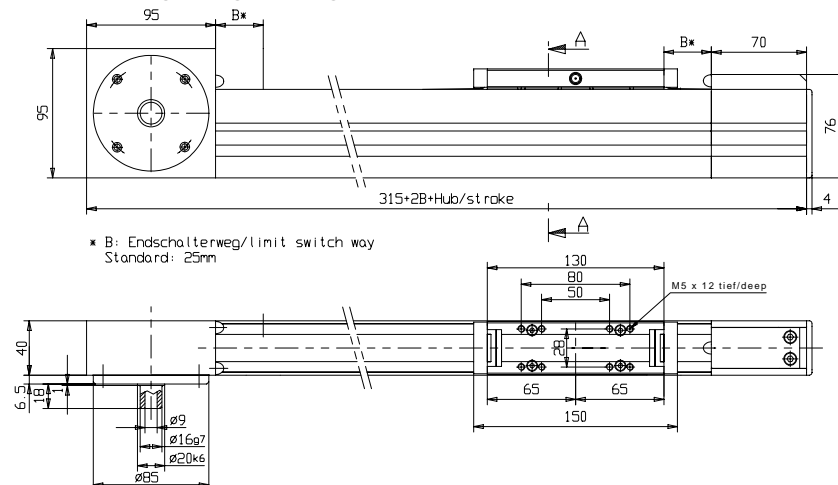
- \*\* Gesamtlänge in Kombination mit LM-P:  
270 = Laufwagenlänge + 2\*Endschalterweg + Endblock
- \*\* Total length in combination with LM-P:  
270 = carriage length + 2\*limit switch way + endblock

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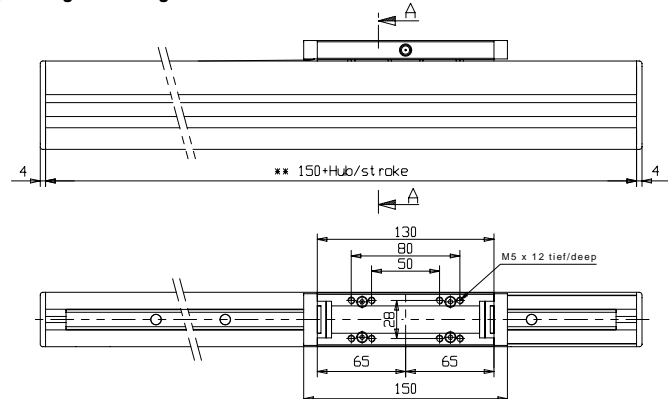
## LM-P404KT100 Laufwagenlänge/carriage length 150 mm



## LM-S404KT100 Laufwagenlänge/carriage length 150 mm



## LM-H404K Laufwagenlänge/carriage length 150 mm



- \*\* Gesamtlänge in Kombination mit LM-P:  
270 = Laufwagenlänge + 2 x Endschalterweg + Endblock
- \*\* Total length in combination with LM-P:  
270 = carriage length + 2 x limit switch way + endblock



## INQUIRY

Please fill in the form on this page and mail or fax it to your local **Berger Lahr Positec** sales office.

Within the next couple of days, we will send you an obligation free offer for your desired axis version.

### Sender:

Contact \_\_\_\_\_

Company \_\_\_\_\_

Street/P.O. box \_\_\_\_\_

City/postal code \_\_\_\_\_

Phone \_\_\_\_\_

Fax \_\_\_\_\_

### Portal axis LM-P404

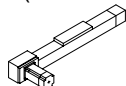
#### Basic version

☐ LM-P404RT100

☐ LM-P404KT100

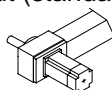
#### Motor to be mounted on

☐ right (standard) ☐ left



#### Extended drive shaft stub

☐ without (standard) ☐ with



### Portal axis with shaft LM-S404

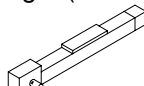
#### Basic version

☐ LM-S404RT100

☐ LM-S404KT100

#### Schaft stub

☐ right (standard) ☐ left

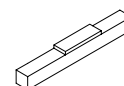


### Supporting axis LM-H404

#### Basic version

☐ LM-H404R

☐ LM-H404K



### Stainless version

☐ no (standard)

☐ yes (only roller guide)

### Number of carriages

☐ one (standard)

☐ two, distance \_\_\_\_\_ mm

### Limit switch

☐ none

☐ two ☐ three

### Carriage length

LM-P404R ☐ 150 mm ☐ 230 mm

LM-P404K ☐ 150 mm ☐ 230 mm

### Stroke length

\_\_\_\_\_ mm (max.3000 mm)



*Note*  
Additional axis available on request.

*Note*

You may use customer specific motors.



### Standard drives for LM-P404

#### 3-phase stepping motors

☐ VRDM 397 (2 Nm)

☐ VRDM 3910 (4 Nm)

☐ VRDM 3913 (6 Nm)

#### 3-phase stepping motors with gearbox

☐ VRDM 3910 with PLE80 (3:1) (10 Nm)

☐ VRDM 3913 with PLE80 (3:1) (15 Nm)

#### Motor connection

☐ with connector

☐ with terminal box

#### Motor options

☐ with encoder (only for motors with connector)

☐ with brake

### Remarks: