

The LM-A812 cantilever axis is suitable for applications which require the dynamic and high precision movement of loads up to 30 kg (mainly in the vertical plane). Its application range is mainly in the field of palletising, packaging, and machine loading. In short, applications where large parts need to be moved over long distances.

Through the variety of variation possibilities, it can be adapted to suit other specific requirements which are not specified in the following document. With the same outer dimensions, different guides and transmission elements can be chosen, thus extending the application range into almost every field. The special extruded aluminium axis profile ensures high torsional and flexural strength as well as a low weight.

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

Features

- Roller or circulating ball bearings for optimised running characteristics.
- Different power transmission (toothed belt or rack and pinion).
- The guides can be lubricated from the outside, and require no further maintenance.
- Extruded aluminium profile with high torsional and flexural strength.
- Trigger point for the limit switch is mounted in the profile groove and is moveable.
- Axis available in corrosion resistant material.
- Stroke length up to 1200mm. Cut to length.


Versions

Type key						Description
LM-	A	812	R	T	150	
LM	A	812	R	T	100	Stroke per revolution of the driving shaft
					150	
				T Z		Toothed belt
						Toothed rack
			R K			Roller guide
						Circulating ball bearings
			A	812		Axis profile size
						Cantilever axis
LM					Linear module	


e.g.: LM-A812RT150 Cantilever axis LM-A812 with roller guide, toothed belt and 150 mm stroke per




revolution of the drive shaft

Maximum load  **30 kg**

Maximum stroke  **1200 mm**

Maximum speed  **2 m/s**

Maximum driving torque  **30 Nm**

Specifications

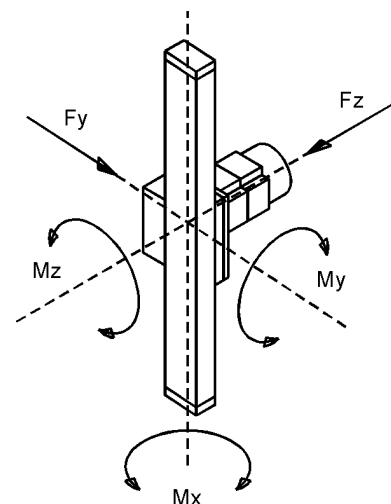
	LM-A812RT150	LM-A812KT150	LM-A812KZ100
Max. load	30 kg	30 kg	30 kg
Max. stroke	1200 mm	1200 mm	1200 mm
Min. stroke ①	133 mm	no restriction	no restriction
Max. torque at the driving shaft	30 Nm	30 Nm	30 Nm
Max. speed ②	2 m/s	2 m/s	1.5 m/s
Repeatability	± 0.05 mm	± 0.05 mm	± 0.05 mm
Stroke per revolution of the driving shaft	150 mm	150 mm	100.53 mm
Effective diameter	47.75 mm	47.75 mm	32 mm
Rotational moment of inertia (without the motor)	5.1 kgcm ²	5.1 kgcm ²	1.53 kgcm ²
Power transmission	Toothed belt b50 T10	Toothed belt b50 T10	Toothed rack m=2
Dead weight (zero stroke) (without the motor)	12.2 kg	12.5 kg	10 kg
Moving weight with zero stroke per 100 mm stroke	4.9 kg 0.75 kg	5.4 kg 0.85 kg	6.2 kg 1.15 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-A812RT150	LM-A812KT150 LM-A812KZ100
Max. forces	Fx	1256 N	1256 N
	Fy	500 N	700 N
	Fz	500 N	700 N
Max. torque	Mx	55 Nm	80 Nm
	My	140 Nm	320 Nm
	Mz	220 Nm	270 Nm



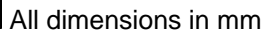
Motors for LM-A812

3-phase stepping motors	VRDM 31117	VRDM 31122
Max. torque	12 Nm	16.5 Nm
Motor weight	8 kg	11 kg

Motors with gearbox for LM-A812

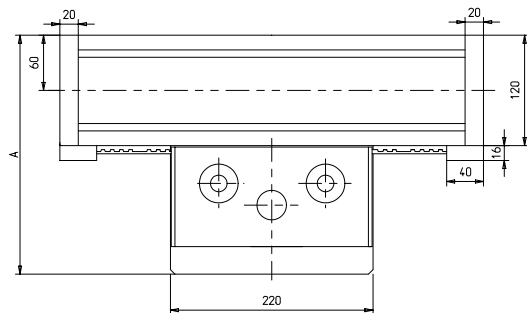
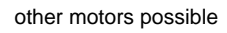
3-phase stepping motor with gearbox	VRDM 3913 with PL50 (3:1)	VRDM 3913 with PL50 (5:1)	VRDM 31117 with PL100 (3:1)
Max. torque	15 Nm	25 Nm	30 Nm
Weight	6.3 kg	6.3 kg	16.5 kg

BERGER LAHR

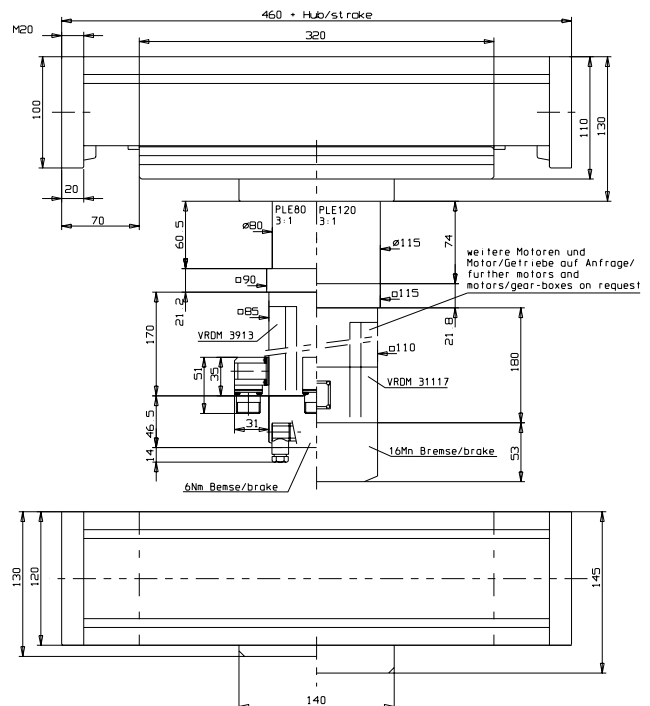


Technical drawing of a mechanical part with dimensions and labels:

- Top horizontal dimensions: 120 (total width), 80 (distance from left edge to first hole), 20 (distance between holes).
- Right vertical dimensions: 86 (height to center of top holes), 100 (height to center of bottom holes), 110 (total height).
- Left vertical dimensions: 20.5 (height of top flange), 30 (height of middle section).
- Labels: "M8x20 tief" (two locations), "7" (height of top flange), "2" (height of middle section), "5" (height of bottom section).
- Internal features: A central rectangular slot and four holes (two top, two bottom).



Technical drawing of a 120x120x7 mm aluminum extrusion profile. The drawing includes a top view, a side view, and a detail view. The top view shows a square cross-section with a 120 mm outer dimension and 80 mm inner dimension. The side view shows a 7 mm thickness. A detail view shows the internal structure with a 20x9.3 mm slot and a 6x8.3 mm slot. A note indicates a 18x20 mm reference depth.



with toothed rack **LM-A812KZ100**

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 _____

cantilever axis LM-A812

Basic version

- ☐ LM-A812RT150
☐ LM-A812KT150
☐ LM-A812KZ100

Stainless version

- ☐ no (standard)
☐ yes

Limit switch

- ☐ none
☐ two
☐ three

Stroke length _____ mm
 (max.1200 mm)

**NOTE**

Additional axes available on request.

NOTE

You may use customer specific motors.

**Standard motors for LM-A812****3-phase stepping motors**

- ☐ VRDM 31117 (12 Nm)
☐ VRDM 31122 (16.5 Nm)

3-phase stepping motors with gearbox

- ☐ VRDM 3913 with PL50 3:1 (15 Nm)
☐ VRDM 3913 with PL50 5:1 (25 Nm)
☐ VRDM 31117 with PL100 3:1 (30 Nm)

Motor connection

- ☐ with connector
☐ with terminal box

Motor options

- ☐ with encoder (only for motors with connector)
☐ with brake

Remarks: