

Telescope axis LM-T812



The telescope axis **LM-T812** is suitable for applications to load parts into working areas and to unload parts from working areas under the following conditions:

- The available space is limited
- And/or the handling system must be removed from the working area.

E.g. this is a requirement for injection molding machines.

The most significant advantage of the telescope axis is that it is very **compact** when not expanded and that it **dives into the working area** from this position.


A variety of versions allow customizing the **LM-T812** for individual application requirements such as single axis applications or in combination with multiple axes as an element for flexible robotics solutions.

The axis can be driven by **Berger Lahr** motors or with customer specified motors.





Features

- Roller or circulating ball bearings for optimized running characteristics.
- The guides can be lubricated from the outside, and require no further maintenance.
- Extruded aluminum profile with high torsional and flexural strength.
- Versatile mounting possibilities due to the plain underside and „item“ compatible grooves on three sides of the profile.
- Standard motors are directly mounted to the drive pulley. As a result no motor couplings are required and weight, space and costs are reduced.
- Axis available in corrosion resistant material.
- Stroke length up to 2400 mm. Cut to length.

Maximum load  **35 kg**

Maximum stroke  **2400 mm**

Maximum speed  **5 m/s**

Maximum driving torque  **30 Nm**

Versions

Type key					Description
LM-	T	812	R	T 300	
				300	Stroke per revolution of the driving shaft
				T	Toothed belt
			R		Roller guide
			K		Circulating ball bearings
		812			Axis size
	T				Telescope axis
L					Linear module

e.g.: LM-T812RT300 Telescope axis LM-T812 with roller guide, toothed belt and 300 mm stroke per revolution of the drive shaft



Specifications

	LM-T812RT300	LM-T812KT300
Max. load	25 kg	35 kg
Max. stroke ①	2400 mm	2400 mm
Min. stroke ②	110 mm	110 mm
Max. torque at the driving shaft	30 Nm	30 Nm
Max. speed	5 m/s	2 m/s
Repeatability	± 0,1 mm	± 0,1 mm
Stroke per revolution of the driving shaft		
Profile	150 mm	150 mm
Carriage	300 mm	300 mm
Effective diameter	47,75 mm	47,75 mm
Rotational moment of inertia of the axis (without the motor)	9 kgcm ²	9 kgcm ²
Effective friction force at drive shaft	54 N	60 N
Power transmission	Toothed belt	Toothed belt
Profile	b50 T10	b50 T10
Carriage	b32 AT5	b32 AT5
Dead load (zero stroke) (without the motor)	14 kg	14,3 kg
Moved dead load		
Profile		
with 0 mm stroke ③	3,8 kg	4,2 kg
per 100 mm stroke	1,0 kg	1,1 kg
Carriage ③	2,7 kg	3,1 kg

① In relation to the total axis length $L_{total}=(Stroke/2 + 380)$ [mm]

② In case of small strokes the rollers never come in contact with lubricant

③ Already considered in the "dead load (zero stroke)"

Maximum forces and torque

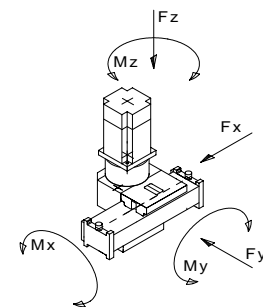
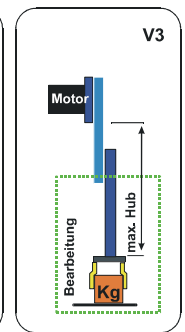
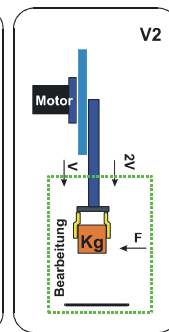
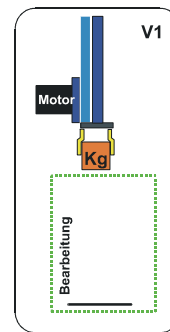
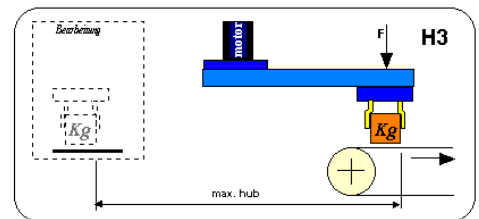
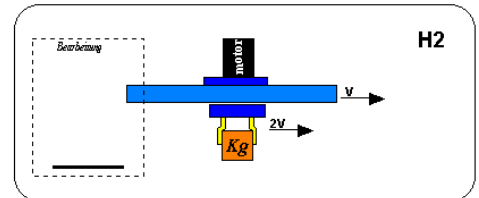
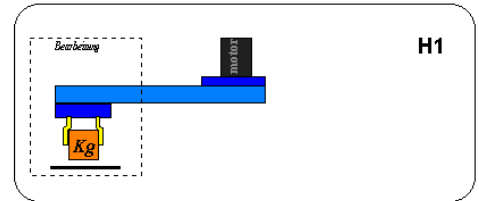
		LM-T812RT300	LM-T812KT300
Max. forces	F _x	1256 N	1256 N
	F _y	500 N	700 N
	F _z	500 N	700 N
Max. torque	M _x	55 Nm	80 Nm
	M _y	140 Nm	320 Nm
	M _z	220 Nm	270 Nm

Standard motors

3-phase stepping motor	VRDM 31117	VRDM 31122
Max. torque	12 Nm	16,5 Nm
Motor weight	8 kg	11 kg

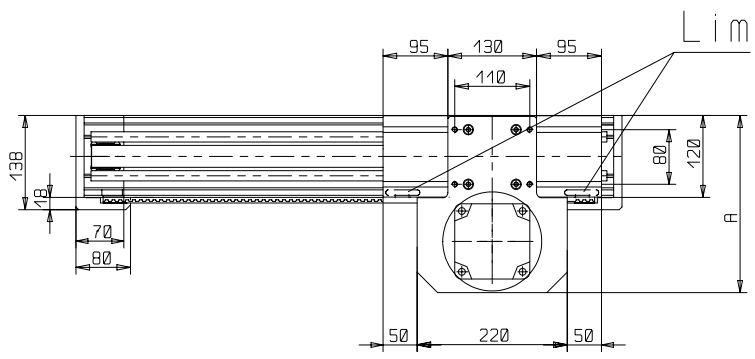
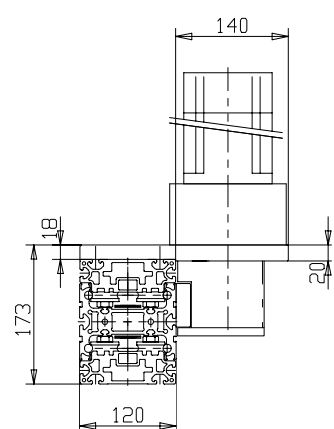
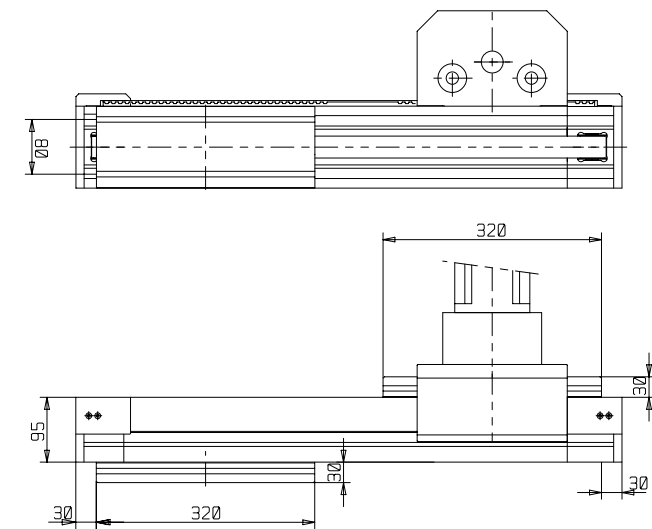
Standard motors with gear

3-phase stepping motor with gear	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

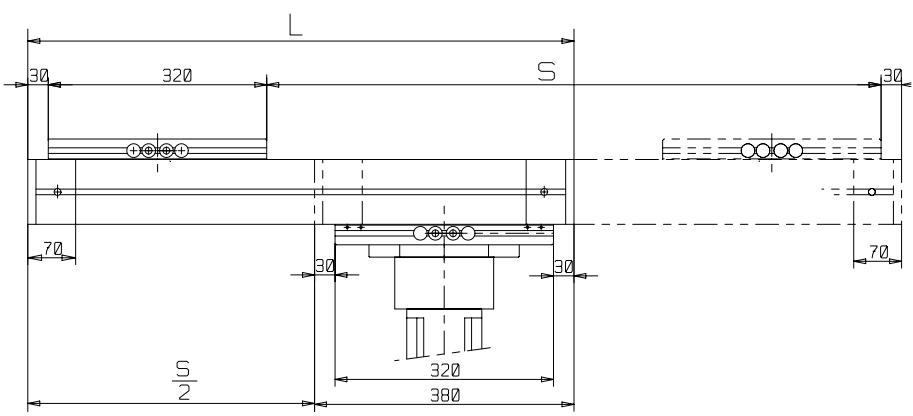




all dimensions in mm

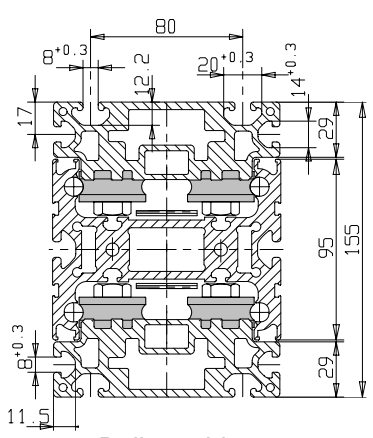


motor gearbox	dimension A
VRDM 31117	245
VRDM 31122	245
VRDM 3913	230
PL 50	230
PL 100	260

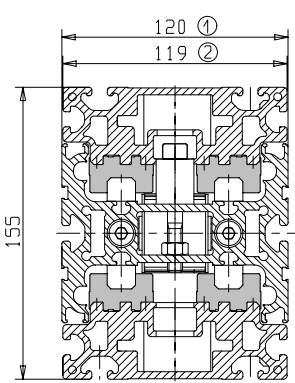


$$L = \frac{S}{2} + 380$$

s: stroke



Roller guide



recirculating ball bearing

- ① axis profile
- ② slide

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	_____

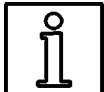
Telescope axis LM-T812
Basic version
<input type="checkbox"/> LM-T812RT300
<input type="checkbox"/> LM-T812KT300

Stainless version <input type="checkbox"/> no (standard) <input type="checkbox"/> yes	Limit switch <input type="checkbox"/> none <input type="checkbox"/> two (standard) <input type="checkbox"/> three	Stroke length _____ mm (max.2400 mm) Carriage length <input checked="" type="checkbox"/> 320 mm
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NOTE
Additional axis versions available on request.

NOTE
The mounting of customized motors is possible



Recommended drives for LM-T812

3-phase stepping motor

- VRDM 31117 (12 Nm)
- VRDM 31122 (16,5 Nm)

3-phase stepping motor with gear

- 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: