

The **LM-A504** cantilever axis is used where loads of up to 6kg need to be transported dynamically into and out of the working area.

The special axis profile is made of extruded aluminium and provides an especially high torsional and flexural strength with a very low mass.

This axis is available with two guide types:

- Roller guides
- Re-circulating ball bearing guides

The axis can be driven with the **Berger Lahr** range of 3-phase stepper motors or AC synchronous servo motors. Other non Berger Lahr motors can be fitted to the axis.

## Features

- Roller guides or re-circulating ball bearing guides with excellent operating characteristics
- The aluminium profile offers a high corrosion resistance
- ITEM compatible grooves on three sides, ensures both an economical and flexible system to adapt the axis in a multi axis system
- Stroke length up to 600 mm. Cut to length.
- Optimum profile design to ensure both a high torsional and flexural strength with a very low dead weight

## Versions

Type Key						Description
LM-	A	504	K	T	100	
LM	A	504	K		100	Stroke per revolution of the drive shaft
				T		Toothed belt
				R		Roller Guide
				K		Re-circulating ball bearing guide
						Axis profile size
						Linear module

e.g.: LM-A504KT100

Cantilever axis LM-A504 with re-circulating ball bearing guide, toothed belt and 100 mm stroke per revolution of the drive shaft



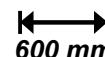
**LM-A504KT100**

Maximum load



**6 kg**

Maximum stroke



**600 mm**

Maximum speed



**5 m/s**

Maximum driving torque



**7 Nm**

## Specifications

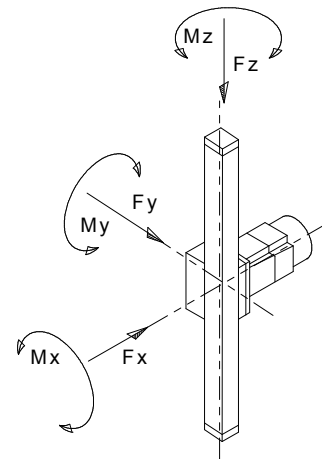
	LM-A504RT100		LM-A504KT100	
Carriage length	150 mm	230 mm	150 mm	230 mm
Max. load	1 kg		6 kg	
Max. recommended stroke	500 mm		600 mm	
Min. stroke ①	110 mm		-	
Max. torque at the axis drive shaft	7 Nm		7 Nm	
Idle torque	0,5 Nm		0,5 Nm	
Max. speed ②	5 m/s		5 m/s	
Repeatability	± 0.05 mm		± 0.05 mm	
Stroke per revolution of the drive shaft	100 mm		100 mm	
Effective diameter of drive shaft	31.83 mm		31.83 mm	
Rotational moment of inertia of the axis (without motor)	0.47 kgcm <sup>2</sup>		0.39 kgcm <sup>2</sup>	
Power transmission	Toothed Belt - b20 AT5		Toothed Belt - b20 AT5	
Dead mass at 0 stroke (without motor)	2.6 kg	3.0 kg	2.8 kg	3.4 kg
Moving mass at 0 stroke	0.82 kg	0.99 kg	1.21 kg	1.55 kg
Moving mass Per 100 mm stroke	0.22 kg		0.43 kg	

① At smaller strokes, the rollers can never make contact with the oil

② Dependant on load and stroke

## Maximum Forces and Torques

		LM-A504RT100		LM-A504KT100	
Carriage length		150 mm	230 mm	150 mm	230 mm
Max. forces	Fx	100 N	100 N	115 N	200 N
	Fy	100 N	100 N	115 N	200 N
	Fz	440 N	440 N	440 N	440 N
Max. torques	Mx	12 Nm	20 Nm	22 Nm	55 Nm
	My	10 Nm	16 Nm	28 Nm	70 Nm
	Mz	6.6 Nm	6.6 Nm	12 Nm	20 Nm

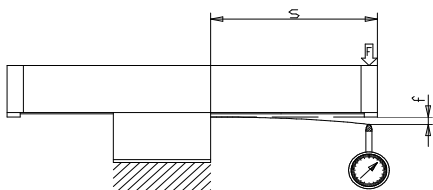


## Standard Motors for LM-A504

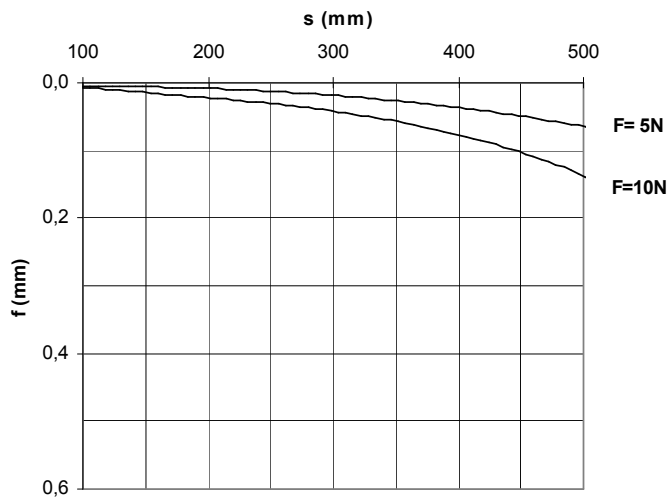
Motor	Size / Type			
3-phase stepper motor	VRDM 364	VRDM 366	VRDM 368	
3-phase stepper motor	VRDM 397	VRDM 3910	VRDM 3913	
AC-Synchronous servo motor	SER 364	SER 366	SER 368	SER 3610
AC-Synchronous servo motor	SER 397	SER 3910	SER 3913	SER 3916
Planetary gearbox	PLE 60 (3:1)	PLE 60 (5:1)	PLE 60 (8:1)	
Planetary gearbox	PLE 80 (3:1)	PLE 80 (5:1)	PLE 80 (8:1)	

## Axis rigidity LM-A504R

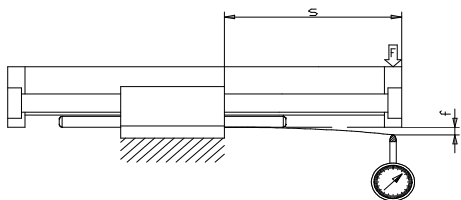
Measuring structure:  
clamping surface below



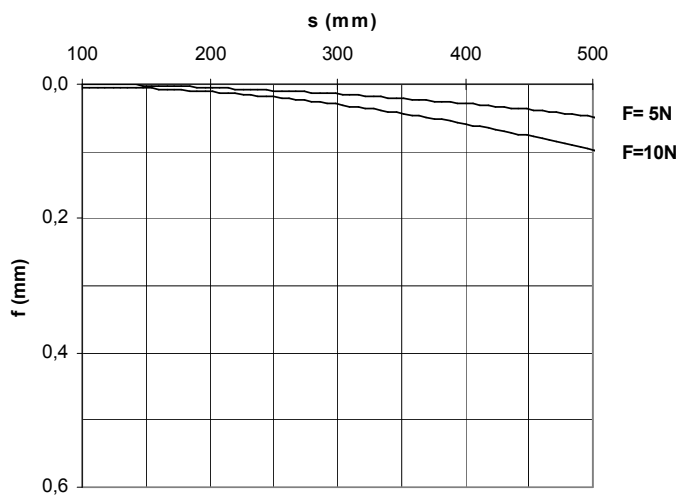
Flexibility of LM-A504K  
with clamping surface below



Measuring structure:  
clamping surface lateral

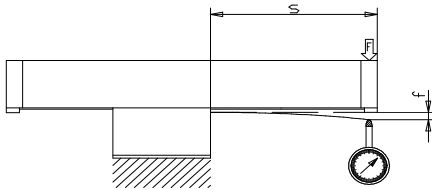


Flexibility of LM-A504K  
with clamping surface lateral

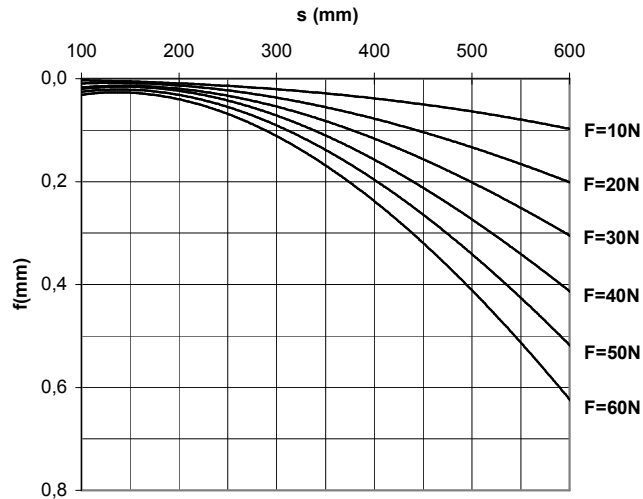


## Axis rigidity LM-A504K

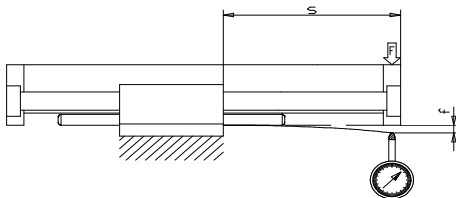
**Measuring structure:  
clamping surface below**



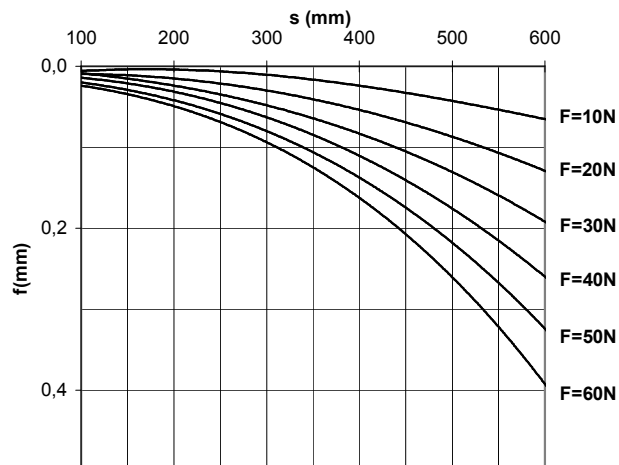
**Flexibility of LM-A504K  
with clamping surface below**



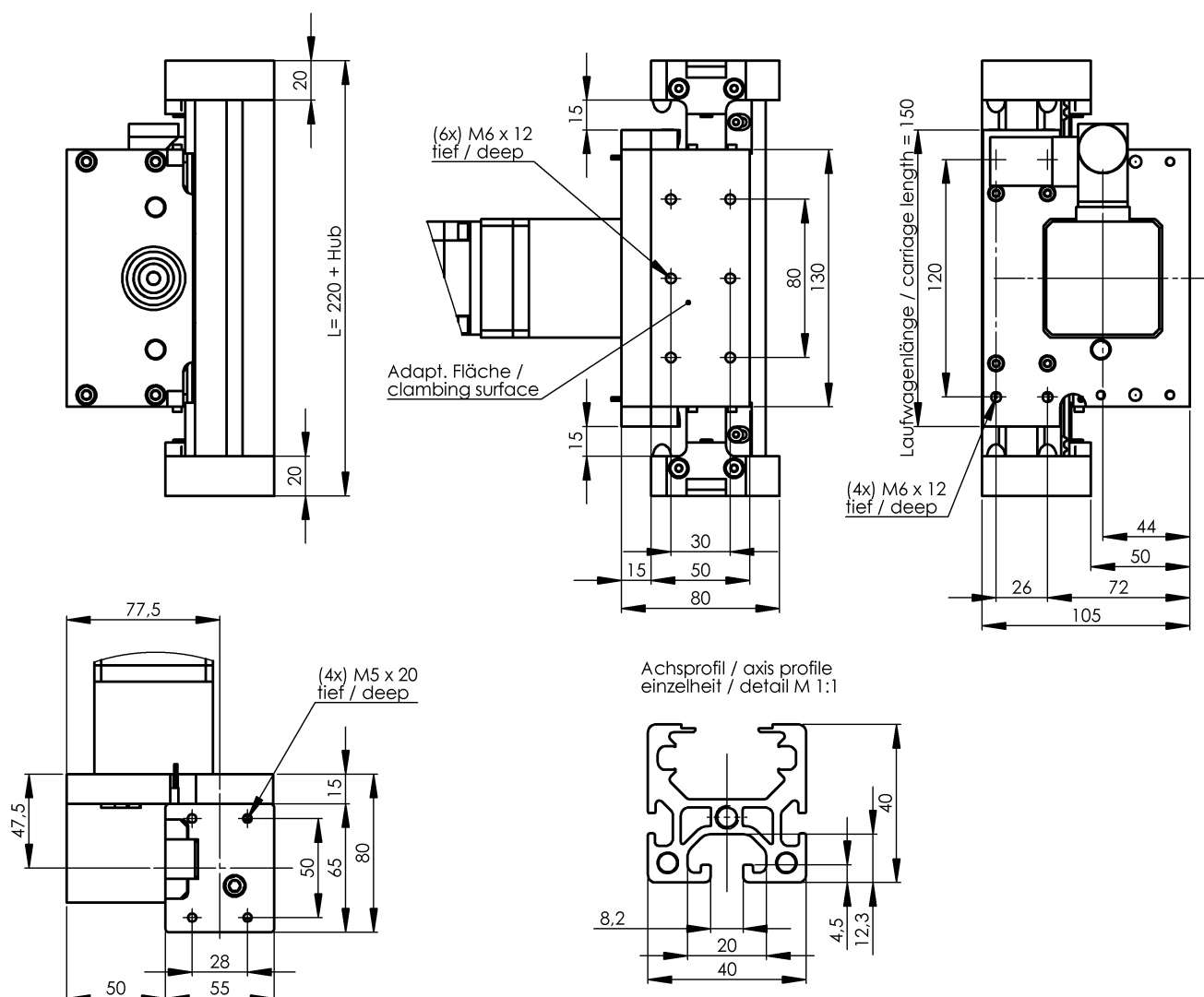
**Measuring structure:  
clamping surface lateral**



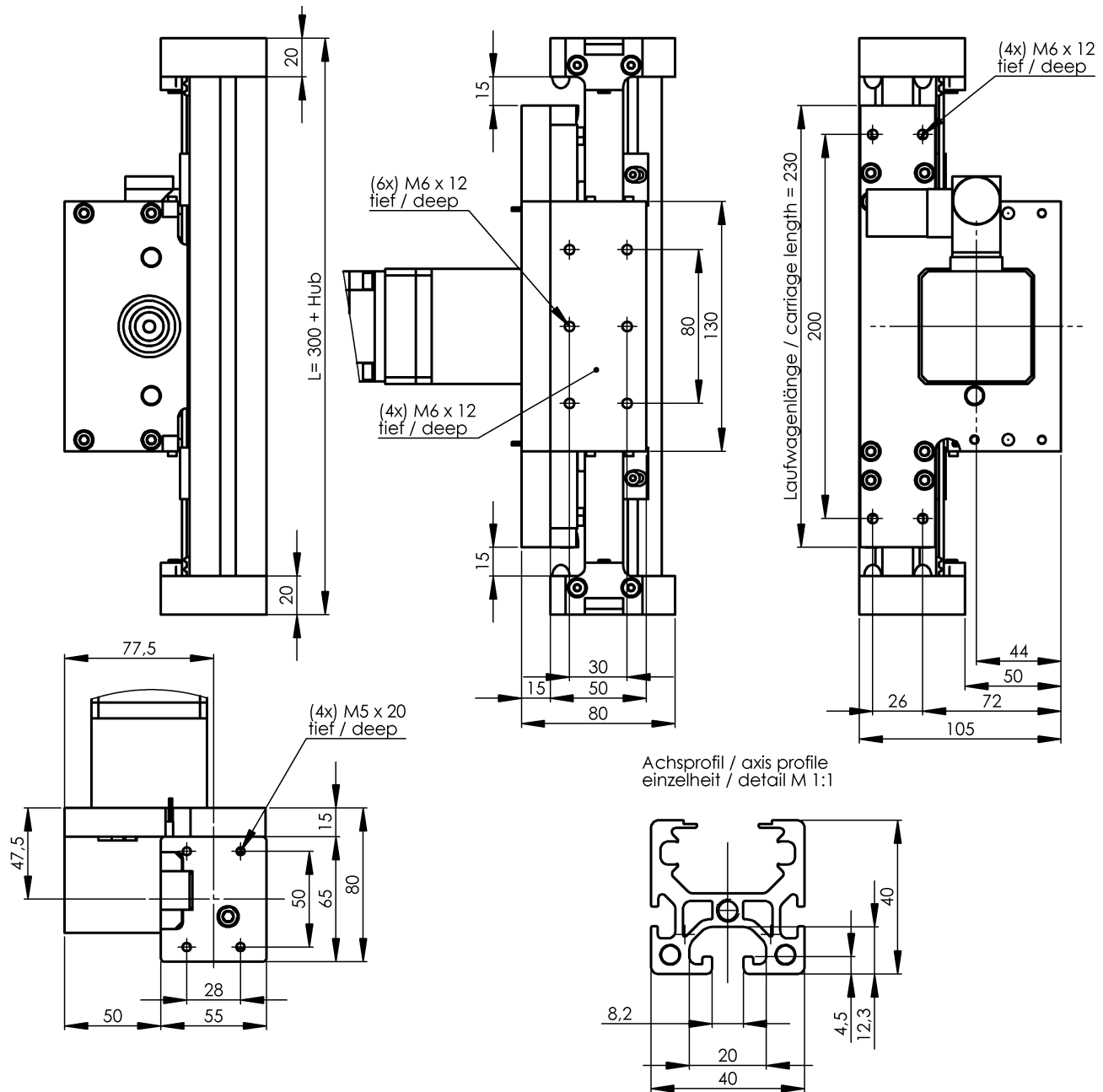
**Flexibility of LM-A504K  
with clamping surface lateral**



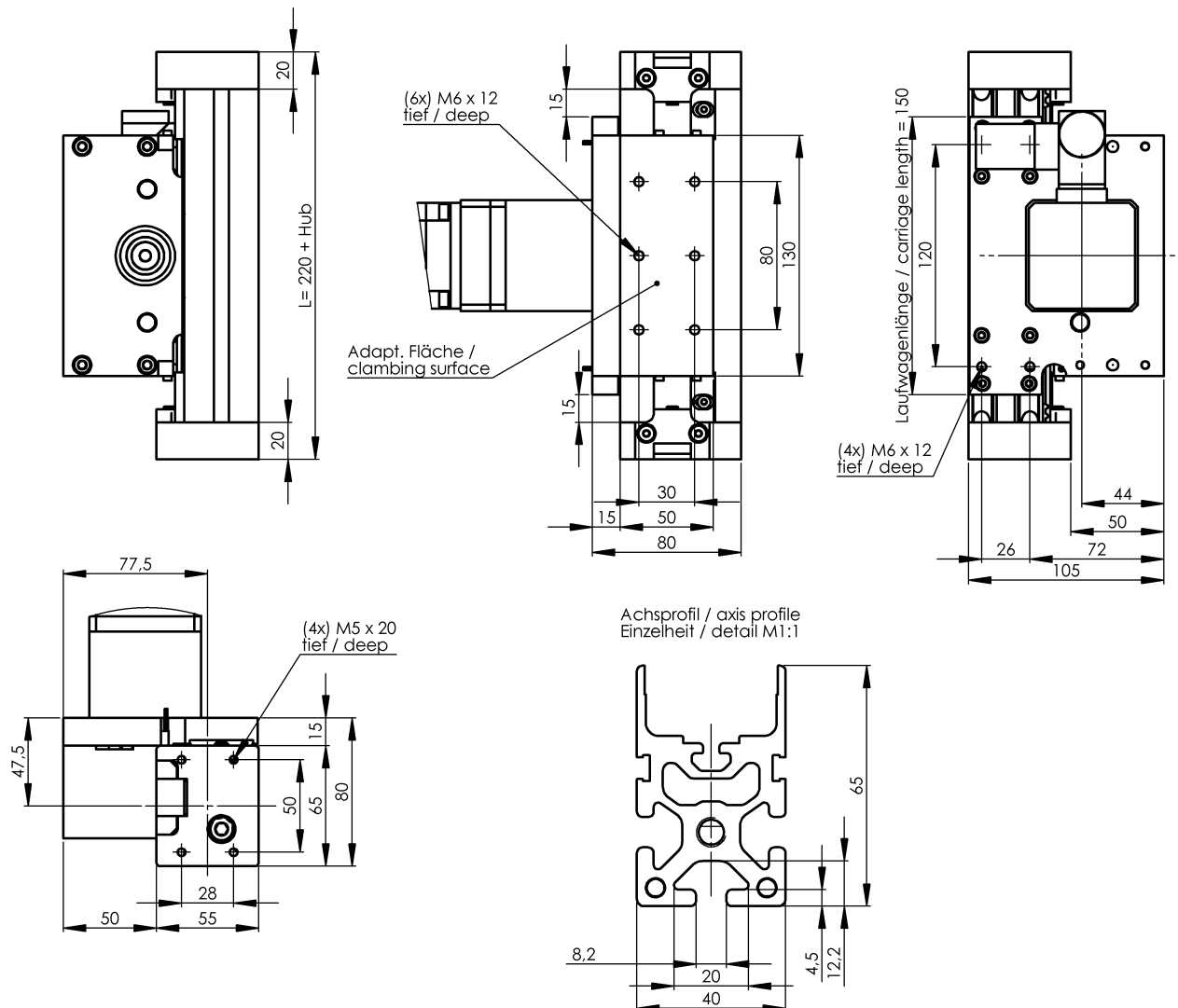
## LM-A504RT100 – Carriage Length 150mm



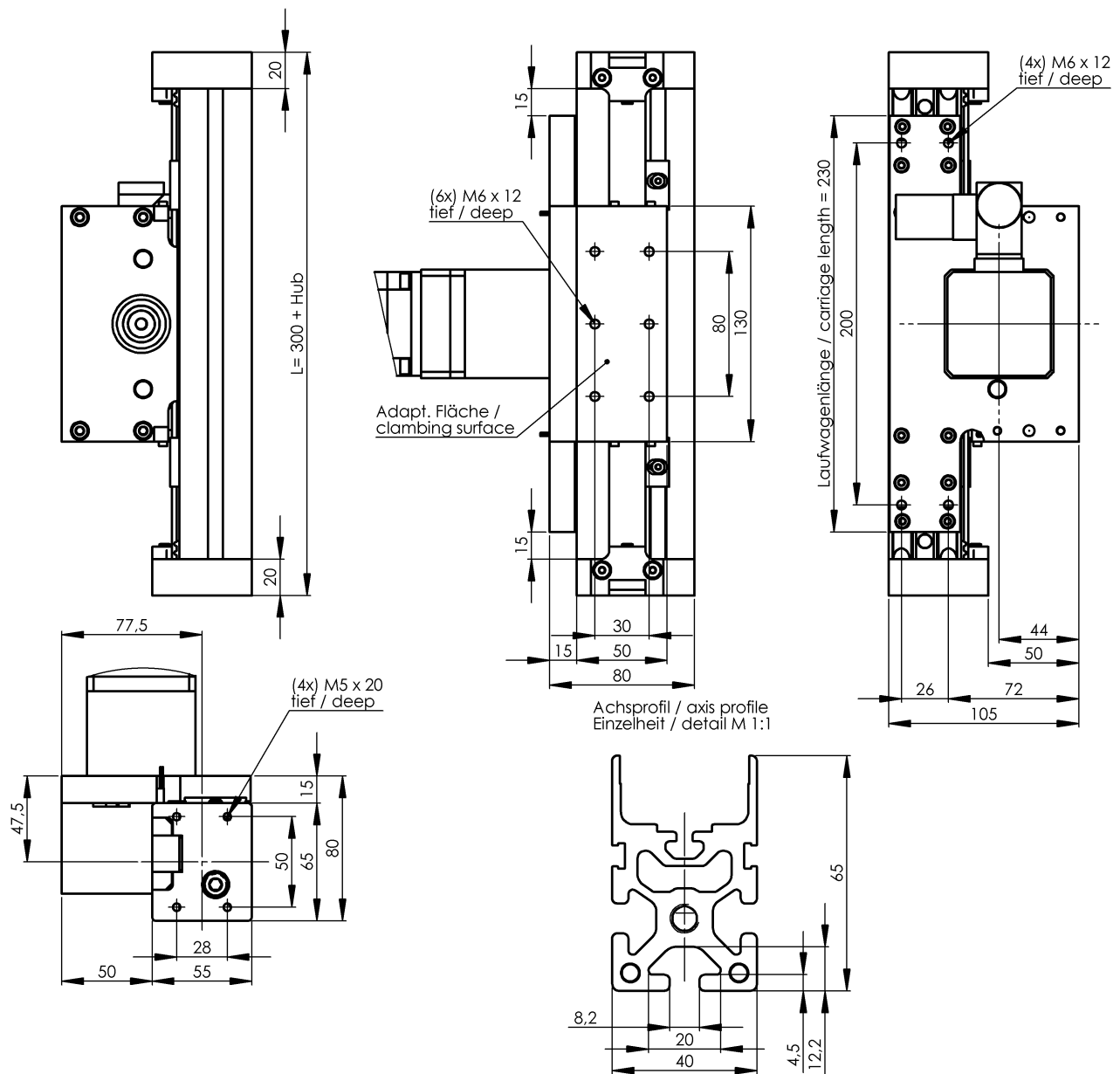
## LM-A504RT100 - Carriage Length 230mm



## LM-A504KT100 - Carriage Length 150mm



**LM-A504KT100 - Carriage Length 230mm**





**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 \_\_\_\_\_  
 Telephone \_\_\_\_\_  
 Fax \_\_\_\_\_  
 Date \_\_\_\_\_

**Cantilever axis LM-A504**

Basic Version

- ☐ LM-A504RT100  
☐ LM-A504KT100

**Corrosion resistant**

- ☐ No (Standard)  
☐ Yes (only with roller guides)

**Limit switch**

- ☐ none  
☐ one  
☐ two

**Carriage length**

- ☐ 150 mm  
☐ 230 mm

**Stroke length** \_\_\_\_\_ mm

**NOTE**

*Additional axes available on request.*

**NOTE**

*You may use customer specific motors.*

**Motor Type:**

- ☐ 3-phase stepper motor \_\_\_\_\_  
☐ AC-Synchronous servo motor \_\_\_\_\_  
☐ Planetary gearbox \_\_\_\_\_

**Remarks:**