

## High-Resolution Linear Actuator with DC Motor

Compact due to Folded Drive



### M-232

- Travel range 17 mm
- Min. incremental motion 0.1 μm
- Velocity to 1.5 mm/s
- Closed-loop DC motors
- MTBF >5000 h

#### Compact precision-class linear drive

High-resolution linear actuator, DC motor. Compact design due to folded drive. Rotating end piece, rotating pusher. Position-controlled DC motors with a gearhead and high-resolution rotary encoders allow for incremental motion and repeatability of just 100 nm

Fits on the M-105 microtranslation stage.

#### High-quality components

Extremely low-friction and backlash-free construction. Noncontact limit switches protect the mechanical system. Closed-loop variants with differential encoder driver for a safe position signal transmission at distances up to 10 m

#### Application fields

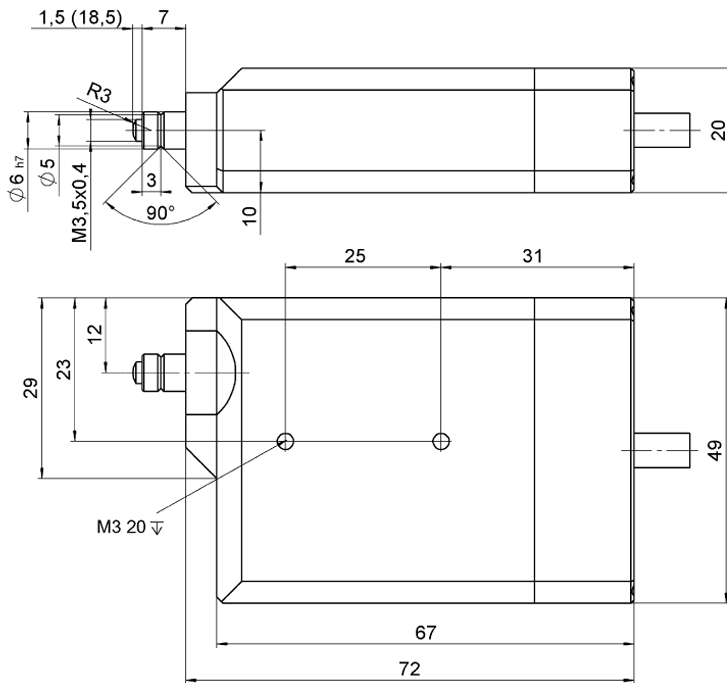
Precision alignment, motorized replacement for micrometer screws.

## Specifications

	M-232.17	Unit	Tolerance
	High resolution, closed loop		
<b>Motion and positioning</b>			
Travel range	17	mm	
Integrated sensor	Rotary encoder		
Sensor resolution	2048	Cts./rev.	
Design resolution	0.007	µm	typ.
Minimum incremental motion	0.1	µm	typ.
Backlash	2	µm	typ.
Unidirectional repeatability	±0.2	µm	typ.
Velocity	1.5	mm/s	max.
<b>Mechanical properties</b>			
Drive screw	Leadscrew		
Thread pitch	0.4	mm	
Gear ratio	28.44444:1		
Motor resolution	–	steps/rev.	
Push/pull force	40	N	max.
<b>Drive properties</b>			
Motor type	DC gear motor		
Operating voltage	0 to ±12	V	
Motor power	1.78	W	
Limit switches	Hall effect		
<b>Miscellaneous</b>			
Operating temperature range	-20 to 65	°C	
Material	Aluminum anodized, chrome steel		
Mass	0.17	kg	±5 %
Cable length	0.5 + 3 m extension cable (included)	m	±10 mm
Connector	15-pin sub-D, incl. encoder driver		
Recommended controllers/drivers	C-863 C-884		

Avoid lateral forces on the pusher!  
Ask about custom designs!

## Drawings / Images



M-232, dimensions in mm

## Ordering Information

### M-232.17

Compact High-resolution linear actuator with DC motor, 17 mm, limit switches