

NEXACT® Linear Actuator, Manipulator, Piezo Stepper

High Resolution with Optional Position Sensor



N-381

- Travel range 30 mm
- Force generation to 10 N
- With NEXACT® piezo walking drive
- Optional: Integrated linear encoder with 20 nm resolution

Fields of application

- Industrial precision positioning
- Semiconductor technology
- Semiconductor tests
- Wafer inspection
- Lithography
- Nanoimprinting
- Nanometrology
- Motion in strong magnetic fields and in a vacuum

Nanometer precision and high feed force with PiezoWalk® walking drives

Several piezo actuators perform a walking motion in the PiezoWalk® walking drive that leads to forward feed of a runner. Control of the actuators allows the smallest step and forward feed motion at a resolution of well under one nanometer.

Highly accurate position measuring with incremental encoder

Noncontact optical encoders measure the position directly at the platform with the greatest accuracy. Nonlinearity, mechanical play or elastic deformation have no influence on the measurement.

Specifications

	N-381.30	N-381.3A
Active axes	X	X
Motion and positioning		
Travel range	30 mm	30 mm
Integrated sensor	-	Incremental linear encoder
Sensor resolution	-	20 nm*
Travel range in analog mode, open loop	±5 µm (max.)	±5 µm (max.)
Resolution, open loop	0.03 nm**	0.03 nm**
Resolution, closed loop	-	20 nm*
Max. velocity	10 mm/s*	10 mm/s*
Mechanical properties		
Max. push/pull force (active)	10 N	10 N
Max. holding force (passive)	15 N	15 N
Permissible lateral force	10 N (max.)	10 N (max.)
Drive properties		
Drive type	NEXACT® linear drive	NEXACT® linear drive
Operating voltage	-10 V to +45 V	-10 V to +45 V
Miscellaneous		
Operating temperature range	0 to 50 °C	0 to 50 °C
Material	Chromium steel / CFK	Chromium steel / CFK
Mass	250 g	255 g
Cable length	1.5 m	1.5 m
Motor connection	HD Sub-D (m) 15	HD Sub-D 15 (m)
Sensor connection	-	HD Sub-D 15 (f)
Recommended electronics	E-712, E-861, E-861.11C885, E-862	E-712, E-861, E-861.11C885, E-862

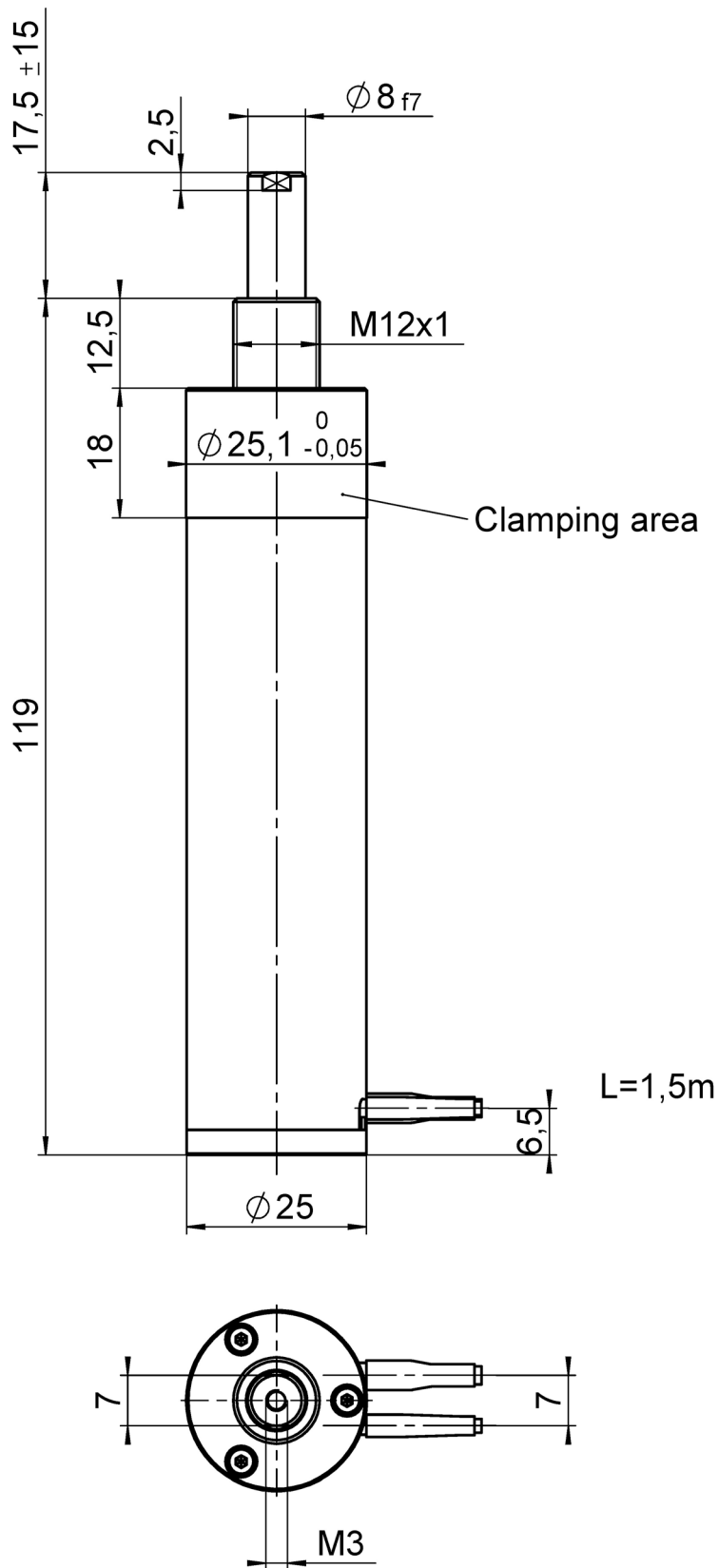
* With E-861. Depending on drive electronics.

** 1 nm with E-861. Depending on drive electronics.

All specifications based on room temperature (22 °C ±3 °C).

Ask about customized versions.

Drawings / Images



N-381, dimensions in mm

Ordering Information

N-381.30

NEXACTUATOR linear actuator, 30 mm, open loop

N-381.3A

NEXACTUATOR linear actuator, 30 mm, 20 nm encoder resolution