

## Piezo Motor Rod Drive

Inexpensive and Easy to Integrate



### N-412

- Silent: Operating frequency to >20 kHz
- Velocity over 5 mm/s
- Submicron resolution
- Holding force to 10 N
- Low operating voltage to 48 V<sub>pp</sub>
- Self-locking, no heat generation at rest

#### Piezo motor direct drive

OEM linear drive without position sensor. Continuous motion with step frequencies in the ultrasound range. Front mounting with M10x1 thread or 9.5 mm clamping shank.

#### Inertia drive

Self-locking at rest, no heat generation. Noiseless rod drive with operating frequencies over 20 kHz. Resolution in step mode approx. 300 nm, open loop.

#### Application fields

Industry and research. Alignment of optical elements, micromanipulation, biotechnology, cell manipulation, medical technology.

## Specifications

Motion and positioning	N-412.50	N-412.51	Unit	Tolerance
Active axis	X	X		
Travel range	13	13	mm	
Step size (in step mode)	300	300	nm	typ.
Step frequency*	23	23	kHz	max.
Max. velocity*	3	3	mm/s	min.

Mechanical properties	N-412.50	N-412.51	Unit	Tolerance
Mechanical interface	Clamping shank 9.5 mm	Thread M10x1		
Stiffness in motion direction	>4	>4	N/μm	±20 %
Push/pull force (active)	7	7	N	max.
Max. holding force (passive)	10	10	N	min.

Drive properties	N-412.50	N-412.51	Unit	Tolerance
Drive type	Inertia drive	Inertia drive		
Operating voltage	48	48	V <sub>pp</sub>	max.

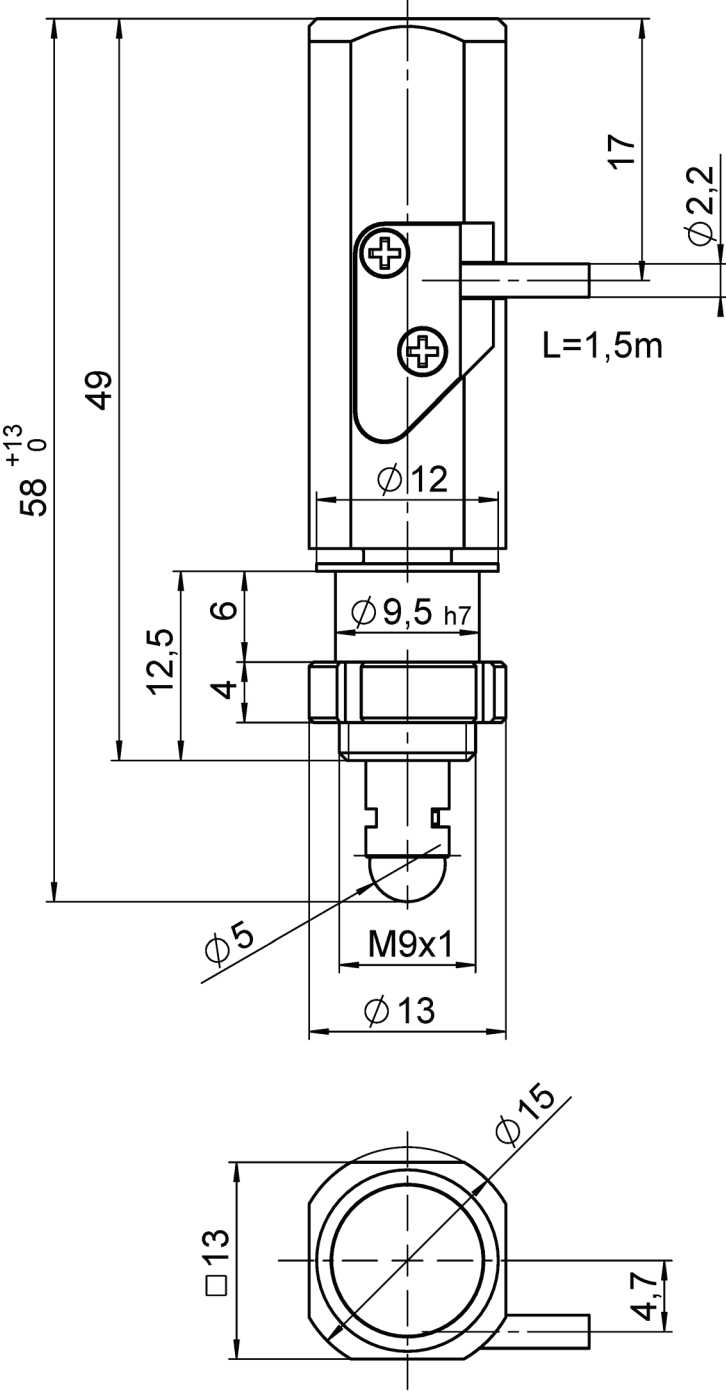
Miscellaneous	N-412.50	N-412.51	Unit	Tolerance
Operating temperature range	0 to 50	0 to 50	°C	
Material**	Stainless steel	Stainless steel		
Dimensions	58 mm length, 15 mm diameter	58 mm length, 15 mm diameter		
Mass	25	25	g	±5 %
Cable length	1.5	1.5	m	±10 mm
Connector	LEMO, 3-pin	LEMO, 3-pin		
Recommended electronics	E-872.401	E-872.401		

\* depending on the drive electronics.

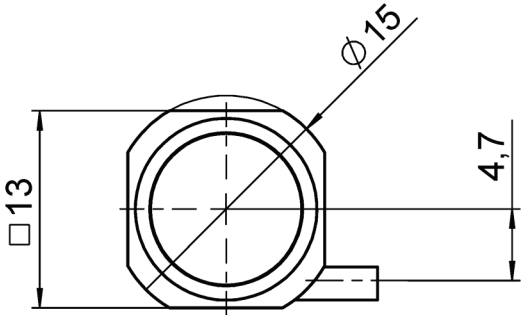
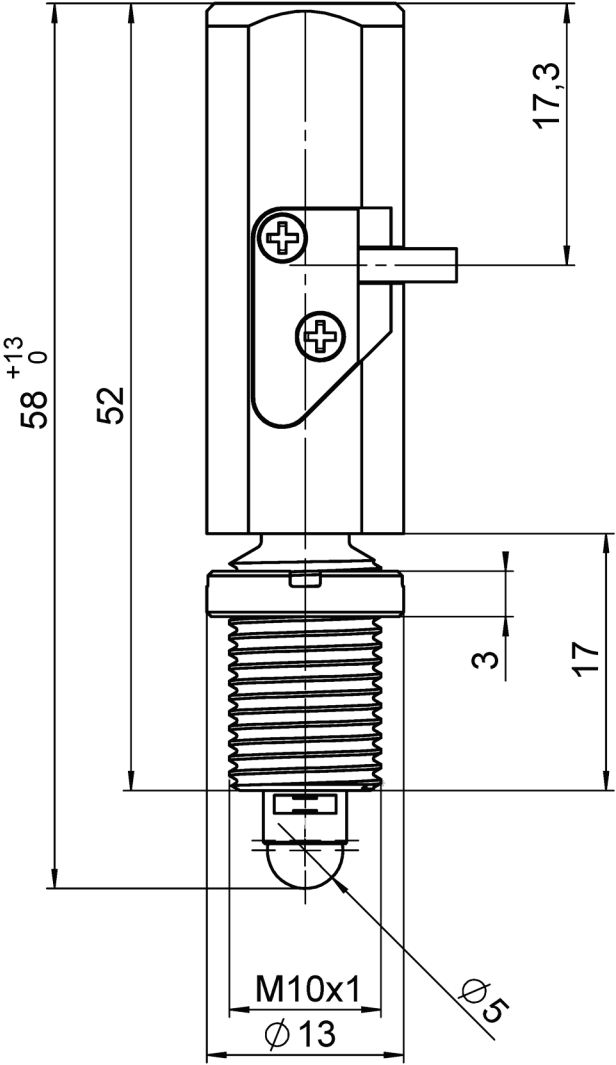
\*\* ceramic runner.

Ask about customized versions.

## Drawings / Images



N-412.50, dimensions in mm



L=1,5m

N-412.51, dimensions in mm

## Ordering Information

### **N-412.50**

OEM linear drive, 13 mm travel range, 7 N feed force, silent operation, 9.5 mm (0.375") clamping shank

### **N-412.51**

OEM linear drive, 13 mm travel range, 7 N feed force, silent operation, M10x1 thread

## **Accessories**

### **N-400.A02**

Extension cable, LEMO connector 3-pin to LEMO connector 3-pin, 2 m

### **N-400.A05**

Extension cable, LEMO connector 3-pin to LEMO connector 3-pin, 5 m

### **N-400.A08**

Extension cable, LEMO connector 3-pin to LEMO connector 3-pin, 8 m

### **N-400.A12**

Extension cable, LEMO connector 3-pin to LEMO connector 3-pin, 12 m

### **N-400.ALM**

Adapter, LEMO 3-pin to Mini DIN

### **N-400.AML**

Adapter, Mini DIN to LEMO 3-pin