Linear Piezo Micrometer ~~screw~~ with integratet encoder

LPMS

- linear PiezoMotor driven system
- Travel range is 15 to 70 mm
- Bidirectional repeatility down to 20nm
- Maximum operation speed 10mm/sec
- Intergeated zerodrift encoder with 10 nm resolution
- Force 10N/ 20N
- High stiffness and fast response.
- Material Stainless steel,
- Vacuum compatibe
- flexible cable
- guiding is a ballbearing from 3 sites

This is a micrometer screw replacement. It works direct linear (without screw) is a cusomized PiezoMotor with integreated magnetic encoder and a simple ballbering guiding for the rod. The mounting Adapter has 9,5mm diameter together with a 3/8 "-40 UNS tread. For more force a tandem motor is possible. For a resolution down to 5 nm is a double magnetic encoder is posible.

Specifications

LPMS			
dimension mm	10.8*19*33.5 dimensions without rod	12*25*33.5 dimensions without rod	10.8*19*56 dimensions without rod
Rod L (mm)	50/70/100	50/70/100	70/100
Travel range (mm)	20/40/70	20/40/70	18/48
Force (N)	10	20	20
Open loop stiffness (N/µm)	3	3	6
operation speed (mm/s)	10	10	10
fast movement** (mm/s)	50	50	50
Hybrid encoder V2 (nm) with ABZ, 18mA @ 5V ***	61(10)	61(10)	61(10)/ 5nm with two encoders
Hybrid encoder V3 (nm) with ABZLL, 18mA @ 5V ***	61(10)	61(10)	61(10) 5nm with two encoders
Hybrid encoder V4 (nm) with ABZ, 3mA @ 5V ****	10	10	10 5nm with two encoders
Bidirectional Repeatability (Encodercounts)	2	2	2

** Fast movement is possible for a short time with the LEGS-Drive®-Ultra Controller
*** take a looke to the datasheet Hybrid encoder V2, V3. 10nm Resolution is possible with the LEGS-Drive®-Ultra Controller
**** take a looke the the datasheet Hybrid Encoder V4

Order code for this product:

LPMS -L-S-P-T-M-A

L = Lenth of rod 50/70/100 mm is standard other are possible.

S = Sensors	S0	without sensor for open loop application
	1V2_61	61nm resolution(magnetic encoder) ABZ TTL
	V2_O	Oversample function 10nm resolution (LEGS-Drive®-Ultra Controller or MC101; magnetic encoder) ABZ TTL
	2V2_O	10nm resolution (LEGS-Drive®-Ultra Controller; magnetic encoder) ABZ TTL (only wth tandem motor possible)
	1V3_61;	61nm resolution(magnetic encoder) ABZ, 2 limit, Error TTL
	1V3_O	Oversample function 10nm resolution (LEGS-Drive®-Ultra Controller or MC101; magnetic encoder) ABZ, 2 limit, Error TTL
	2V3_O	10nm resolution (LEGS-Drive®-Ultra Controller; magnetic encoder) ABZ, 2 limit, Error TTL. (only wth tandem motor possible)
	1V4_10	10nm resolution (magnetic encoder) ABZ TTL
	2V4_10	10nm resolution (magnetic encoder) ABZ TTL (only with tandem motor possible)
P	1	one Piezomotor
	2	two motors in a twin system
	3	two motors in a tandem system
T = Tip	0	without (ceramic rod end)
	1	with Cuppling (aluminium part with sheet metal)
	2	with stainless steel ball
	3	with ceramic ball

M = Mounting

|		
	0	2 m1,6 screw at the front site
	1	Ø 9,5h7 fitting and M9,5mm thread

A = atmosphere

N normal
V vacuum
HV High vacuum (please ask for force and life time)
UHV Ultra high Vacuum (please ask for force and life time)

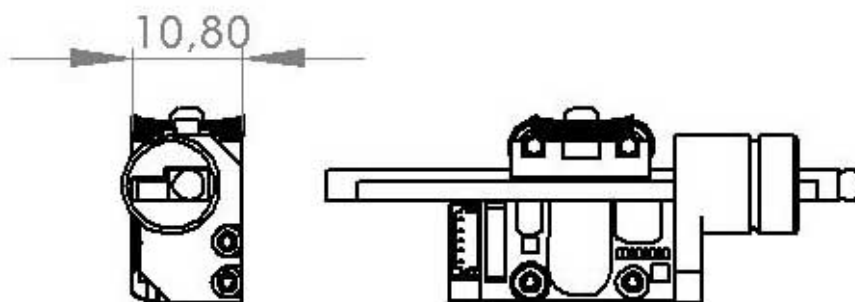So the order code could be for example: **LPMS-50-1V4_10-1-2-1-N**

--> so the Piezomotor has a 50mm drive rod (20mm stroke), 10N, the Encoder has10nm resolution, ABZ, and an error signa, the Drivrod with glued scale is guided, has a stainless steel ball and is for normal atmosphere. It has a micrometer screw interface.
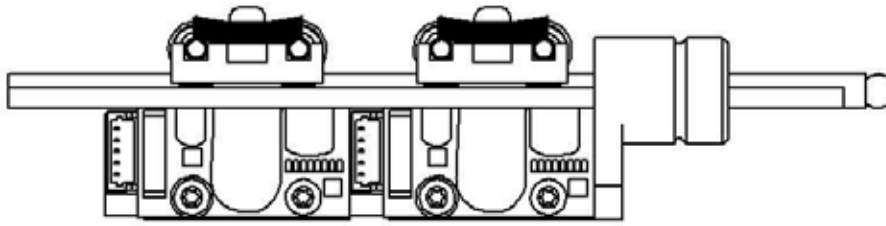

Dimensions:
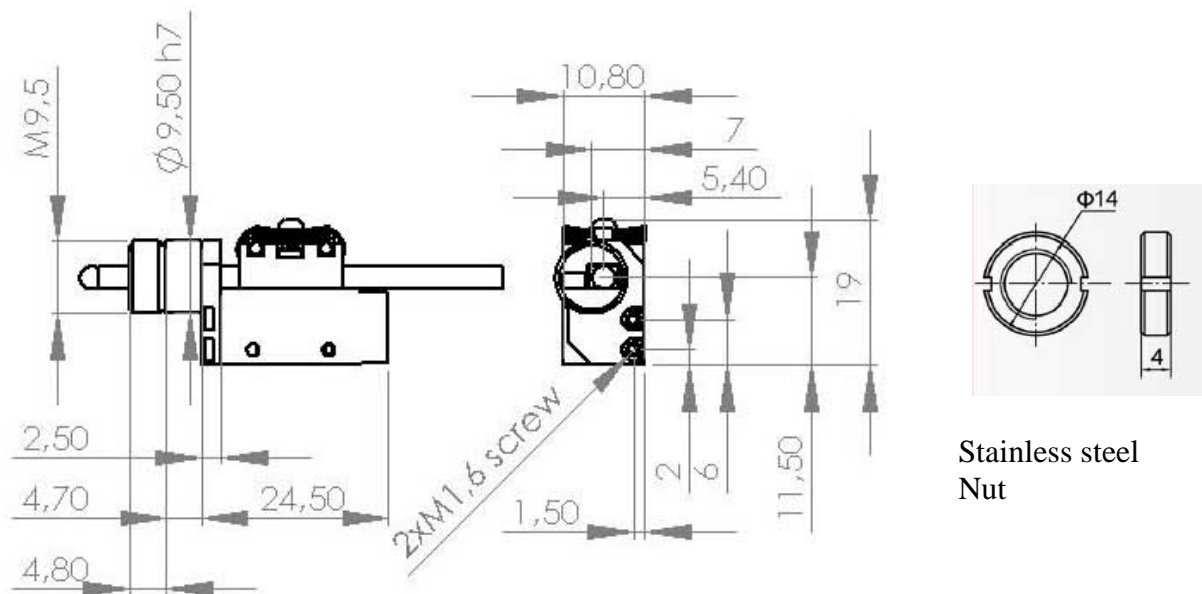
open loop with adapter

closed loop with adapter
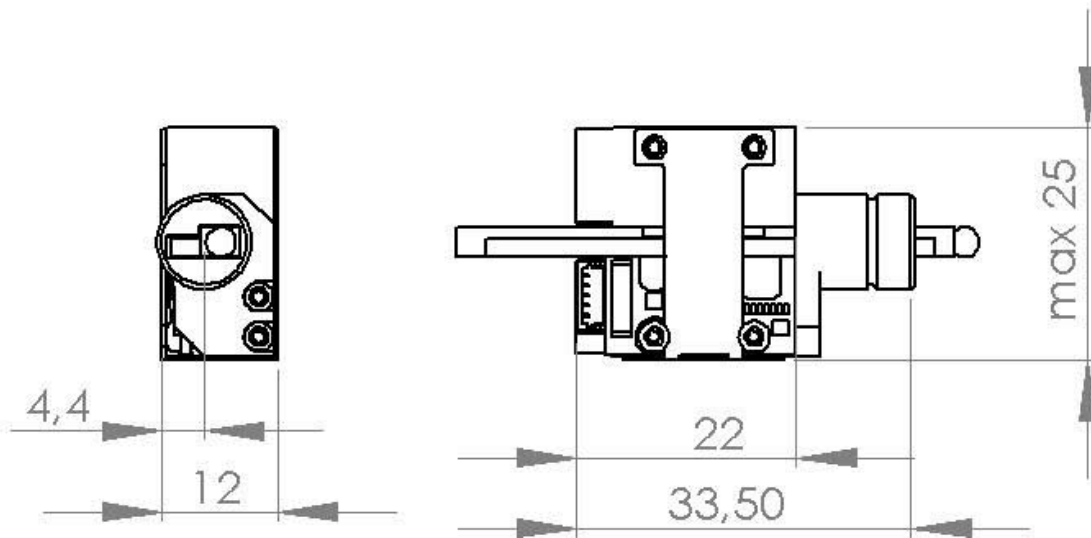
Tandem version closed loop with adapter and double encoder

Twin version closed loop with adapter

Applications:

replace a 25mm micrometer screw and has 1000 times higher resolution (10nm) closed loop; 10 or 20N strong