nPS35
Compact Stages
with
Cross-roller Bearings.

The nPS35 are extremely compact stages with cross-roller bearings. They are offered in both lead screw (LS) and ball screw (BS) versions. The lead screw option allows for lower cost and is especially helpful in vertical applications where self-locking is needed. The ball screw option is available for applications requiring higher efficiency, duty cycle or speed.

The mounting pattern allows for seamless integration with the nPCube piezo stage. Combining the nPS35 stages with any X, XY or XYZ version of the nPCube creates multi-axis systems that offer up to 12 mm of positioning range and high-speed scanning necessary in Photonics, Precision Assembly and Biomedical applications.

Benefits

1. The low profile allows for space-efficient stacking configurations.

2. The lead screw option enables use in applications where self-locking, vertical mounting solutions are needed.

3. A single controller can be used when a piezo stage is present. The API facilitates integration in the customer's application environment.

Product Highlights

❑ Extremely Compact Size

❑ Fine Pitch Thread

❑ Stackable without Additional Brackets

❑ Compatible with the nPcube Piezo Stage for High-speed Scanning

❑ Offered with Both Lead Screw and Ball Screw Option

❑ Customizable

❑ Clean Room Prep

Industries

Industrial Automation   Silicon Photonics/Active Alignment   Life Sciences
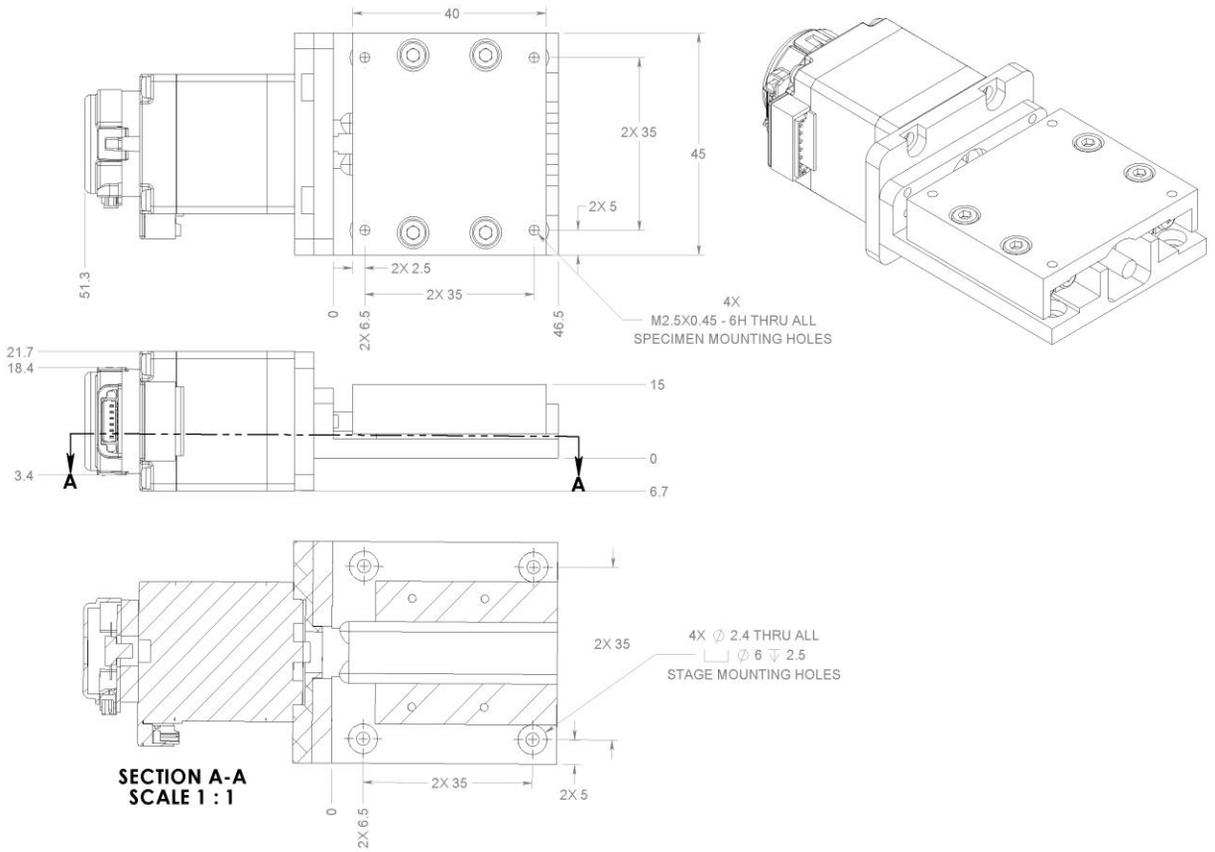
	nPS35-03LS12	nPS35-05BS12
Maximum Travel	12 mm	12 mm
Screw Lead	0.3048 mm (Leadscrew)	0.5 mm (Ballscrew)
Maximum Velocity (unloaded)	2.5 mm/s	5 mm/s
Accuracy (Full Travel ISO 230)	15 um	7.5 um
Bi-directional Repeatability (Full Travel)	5 um	2.5 um
Pitch	120 urad	120 urad
Yaw	120 urad	120 urad
Rotary Encoder Resolution (for homing & stall detection)	4000 cts/rev	4000 cts/rev
Linear Travel per microStep *	7 nm	10 nm
Minimum Incremental Step **	100 nm	100 nm
Maximum Load Horizontal	10 Kg	10 Kg
Maximum Load Vertical	10 Kg	10 Kg
Maximum Load Moment (Pitch)	10 Nm	10 Nm
Maximum Load Moment (Yaw)	8.5 Nm	8.5 Nm
Maximum Load Moment (Roll)	22 Nm	22 Nm
Optional limit sensor	Hall, 5V NPN/PNP	Hall, 5V NPN/PNP
Stage Material	SS	SS
Stage Mass	300 gr	300 gr
Cable Length	2m	2m

Motor Specifications

Motor	2 phase stepper
Motor Step Angle	1.8 degrees
Motor Max Voltage	36 Vdc
Motor Rated Current	1 Amp
Motor Phase Inductance	2.5 mH
Motor Resistance	2.7 Ohm

*Smallest step that the drive can command when microstepping is used.
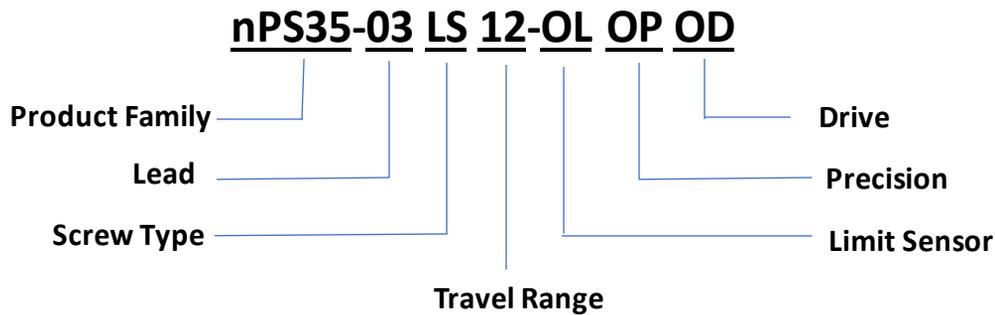
**Smallest step that the stage can reliably perform.

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SECTION A-A
SCALE 1 : 1

40

2X 35

45

2X 5

2X 2.5

2X 35

2X 6.5

46.5

4X
M2.5X0.45 - 6H THRU ALL
SPECIMEN MOUNTING HOLES

51.3

21.7
18.4

15

0

3.4

6.7

A

A

2X 35

4X ⌀ 2.4 THRU ALL
⌴ ⌀ 6 ▽ 2.5
STAGE MOUNTING HOLES

2X 35

2X 5

2X 6.5

UNLESS OTHERWISE NOTED, ALL UNITS
ARE IN MILLIMETERS

Ordering Information

	Limit Sensor Options (OL)	Precision Options (OP)	Drive Options (OD) ***
00 = NONE	✓		✓
S1 = NPN	✓		
S2 = PNP	✓		
D1 = Stepnet TEL-090-07			✓
D3 = LMM-15-M ****			✓
SP = Standard Precision		✓	
HP = High Precision			
XP = Super Precision			

Part Number Creation

nPS35-03 LS 12-OL OP OD

- Product Family
- Lead
- Screw Type
- Travel Range
- Limit Sensor
- Precision
- Drive

***Contact us for additional drive options.

****D2 is used in configurations where the piezo controller is the master controller.

Part Numbers

Product configuration	Travel Range	Type	Pitch	Max Velocity	Bidirectional Repeatability	Drive
nPS35-03LS12-00SP00	12 mm	Lead Screw	0.3048 mm	2.5 mm/s	5 um	None
nPS35-03LS12-00SPD1	12 mm	Lead Screw	0.3048 mm	2.5 mm/s	5 um	Stepnet TEL-090-07
nPS35-05BS12-00SP00	12 mm	Ball Screw	0.5 mm	5 mm/s	2.5 um	None
nPS35-05BS12-00SPD1	12 mm	Ball Screw	0.5 mm	5 mm/s	2.5 um	Stepnet TEL-090-07

Click here to learn more about nPS35.

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