



nPS70

Compact Stages with Cross-roller Bearings.

The nPS70 are 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.

Combining these stages with any piezo stages creates multi-axis systems that offer up to 25 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

- Compact Size
- Fine Pitch Thread
- Stackable without Additional Brackets
- Can be combined with Piezo Stages 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

Specifications

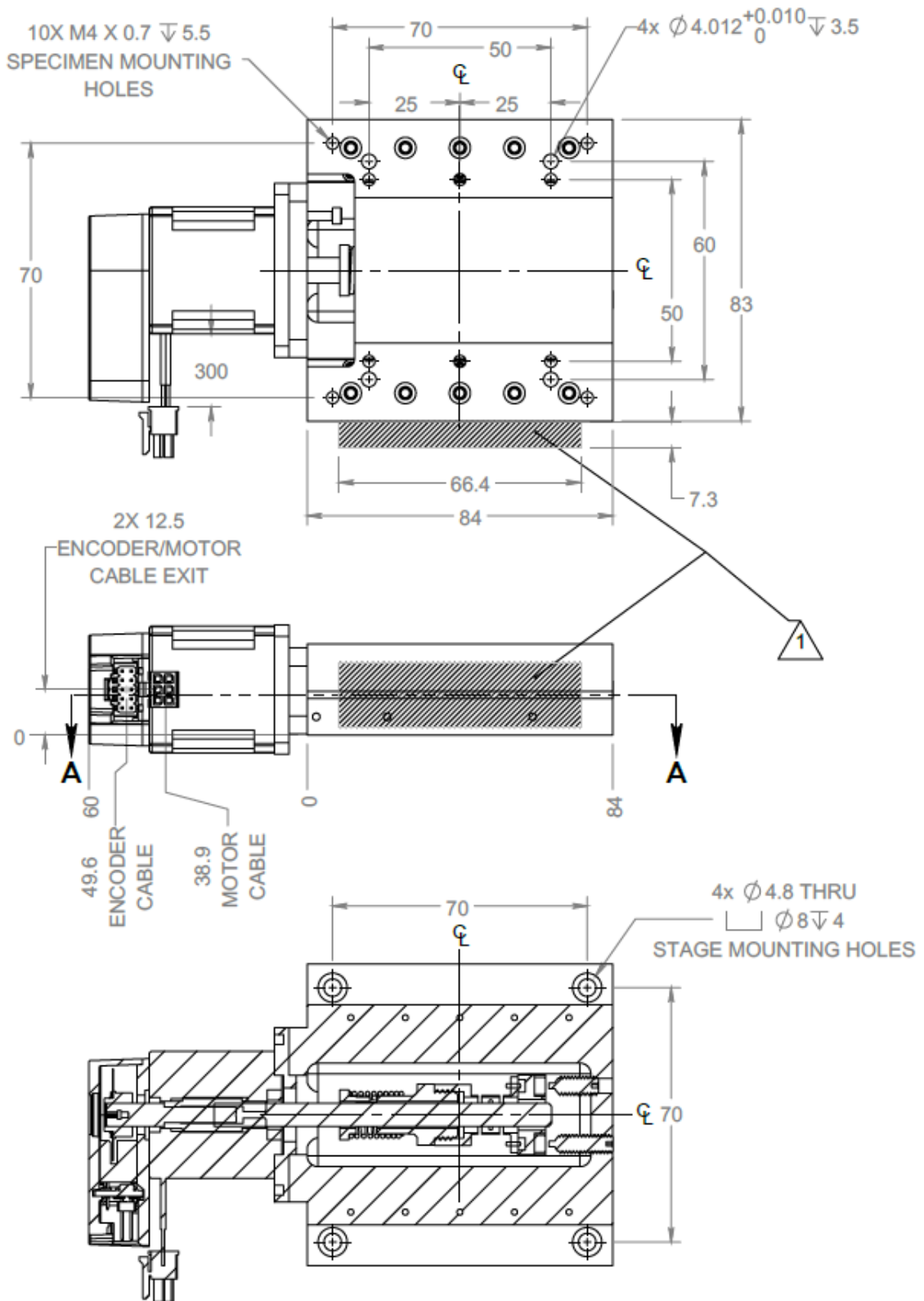
	nPS70-05LS25	nPS70-10BS25
Maximum Travel	25 mm	25 mm
Screw Lead	0.5 mm (Leadscrew)	1.0 mm (Ballscrew)
Maximum Velocity (unloaded)	4 mm/s	10 mm/s
Accuracy (Full Travel ISO 230)	30 um	30 um
Bi-directional Repeatability (Full Travel)	4 um	4 um
Pitch	220 urad	220 urad
Yaw	220 urad	220 urad
Rotary Encoder Resolution (for homing & stall detection)	20000 cts/rev	20000 cts/rev
Linear Travel per microStep *	25 nm	50 nm
Minimum Incremental Step **	100 nm	200 nm
Maximum Load Horizontal	20 Kg	20 Kg
Maximum Load Vertical	5 Kg	5 Kg
Maximum Load Moment (Pitch)	55 Nm	55 Nm
Maximum Load Moment (Yaw)	55 Nm	55 Nm
Maximum Load Moment (Roll)	74 Nm	74 Nm
Optional limit sensor	Hall, 5V NPN/PNP	Hall, 5V NPN/PNP
Stage Material	Al	Al
Stage Mass	650 gr	650 gr
Cable Length	2m	2m

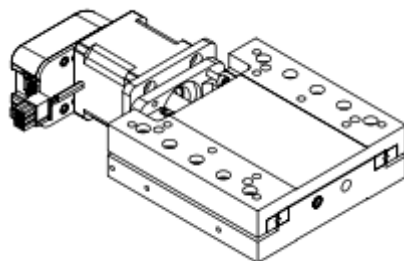
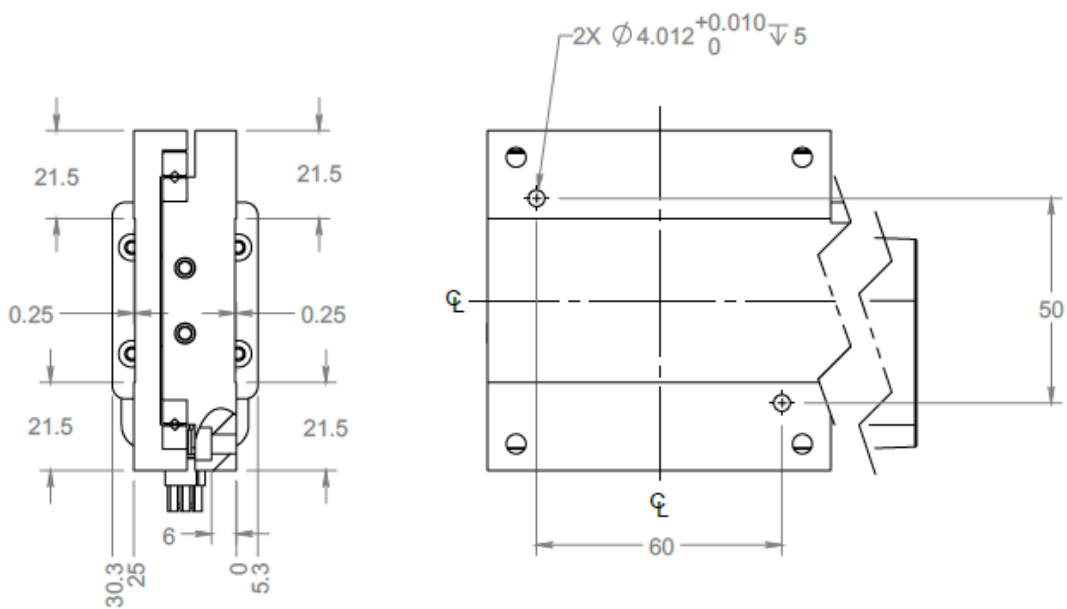
Motor Specifications

Motor	2 phase stepper
Motor Step Angle	1.8 degrees
Motor Max Voltage	48 Vdc
Motor Rated Current	1.25 Amp
Motor Phase Inductance	2.8 mH
Motor Resistance	1.86 Ohm

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

**Smallest step that the stage can reliably perform.



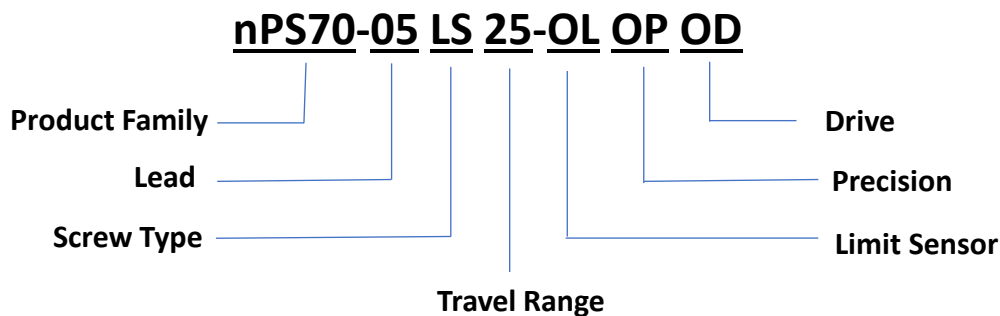


UNLESS OTHERWISE NOTED, ALL UNITS
ARE IN MILLIMETERS

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



***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
nPS70-05LS25-00SP00	25 mm	Lead Screw	0.5 mm	4 mm/s	2 um	None
nPS70-05LS25-00SPD1	25 mm	Lead Screw	0.5 mm	4 mm/s	2 um	Stepnet TEL-090-07
nPS70-10BS25-00SP00	25 mm	Ball Screw	1.0 mm	10 mm/s	2 um	None
nPS70-10BS25-00SPD1	25 mm	Ball Screw	1.0 mm	10 mm/s	2 um	Stepnet TEL-090-07

Click [here](#) to learn more about nPS70.

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