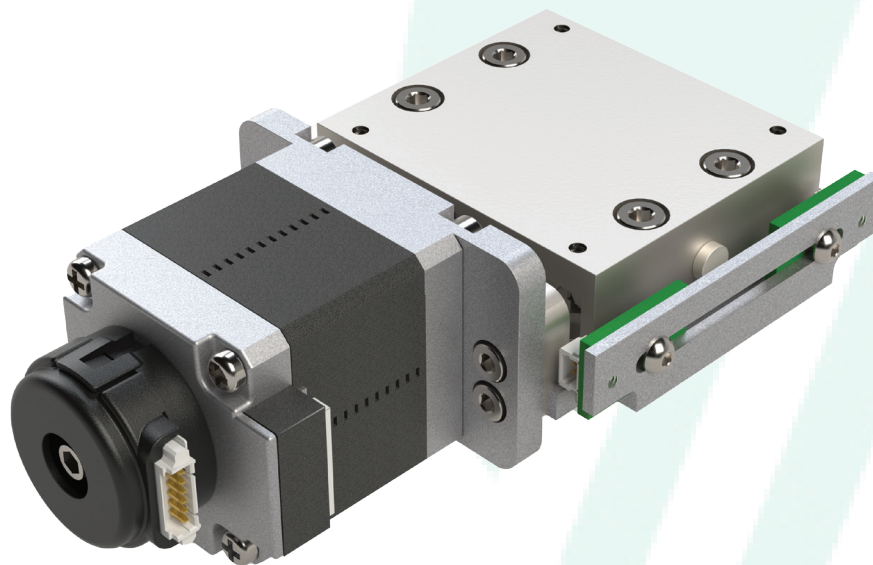




nPS35 Stages

Compact Stages with Cross-Roller Bearings



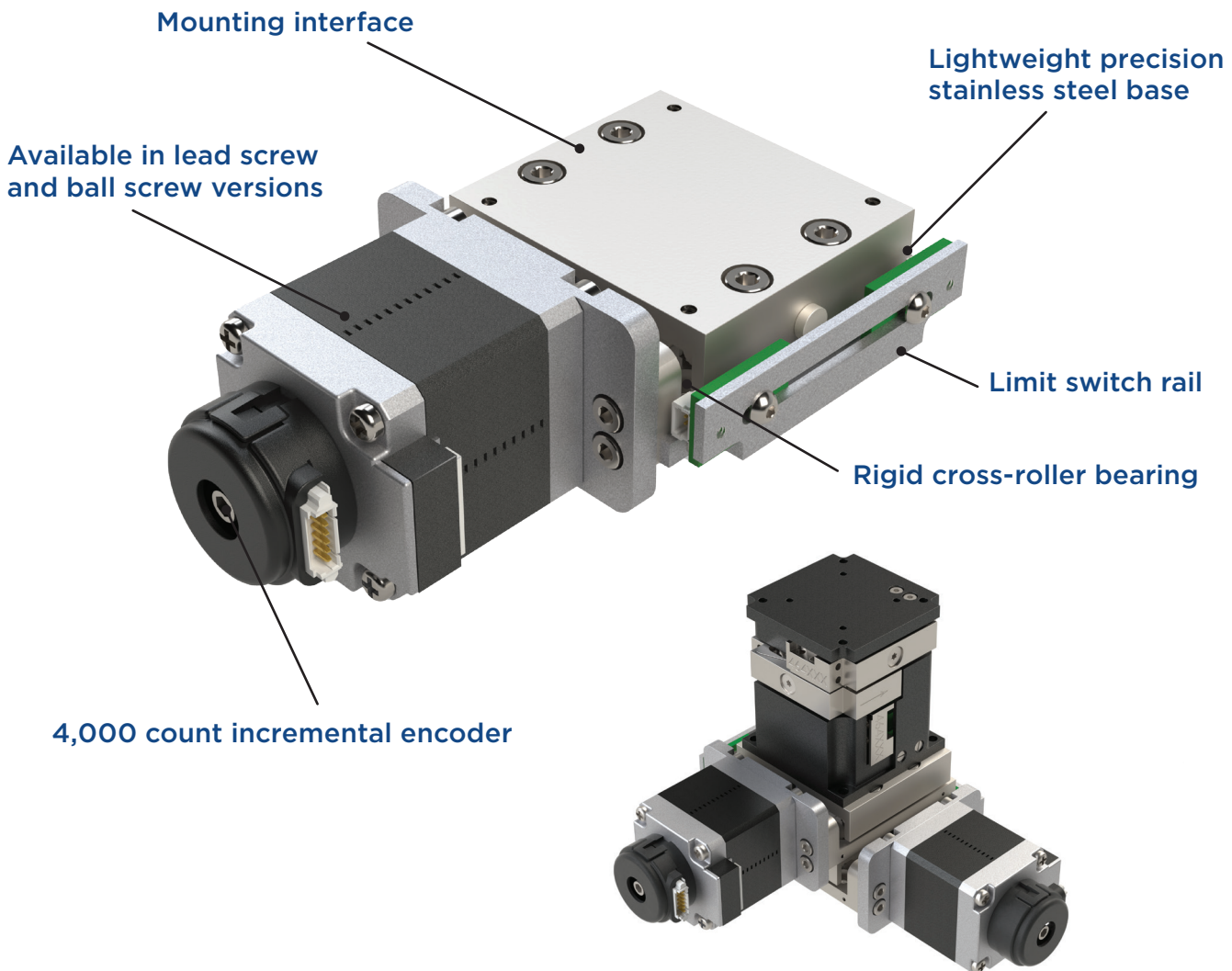
PRECISION MEDICINE

The nPS35 series are ultra-compact positioning stages equipped with high-precision cross-roller bearings, ensuring superior stiffness and smooth linear motion. They are available in two drive configurations: lead screw (LS) and ball screw (BS).



Lead Screw (LS) Version - Offers a cost-effective solution, particularly advantageous in vertical-axis applications due to its inherent self-locking capability, eliminating the need for external braking mechanisms.

Ball Screw (BS) Version - Designed for applications demanding higher mechanical efficiency, extended duty cycles, or elevated traverse speeds, providing superior performance in dynamic environments. These stages are optimized for use in Photonics, Precision Assembly, and Biomedical instrumentation, where compact design, reliability, and repeatability are critical.



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.

nPS35 Stage Specifications

Base Models	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 μ m	7.5 μ m
BI-DIRECTIONAL REPEATABILITY (Full Travel)	5 μ m	2.5 μ m
PITCH	120 urad	120 urad
YAW	120 urad	120 urad
ROTARY ENCODER RESOLUTION (for homing & stall detection)	4000 cts/rev	4000 cts/rev
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 (Magnetic)	SS	SS
STAGE MASS	300 gr	300 gr
CABLE LENGTH	2m	2m

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

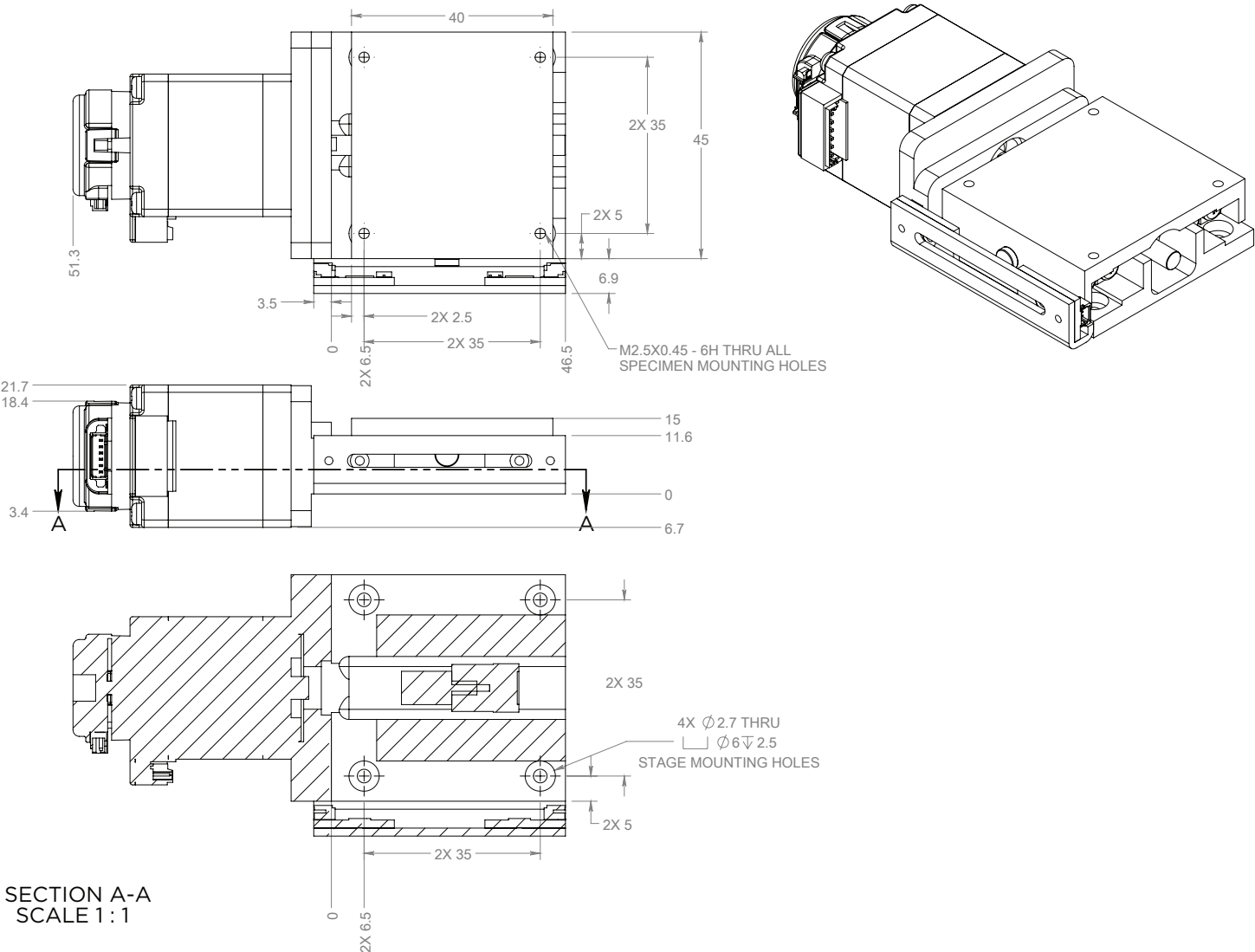
**Smallest step that the stage can reliably perform.

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

nPS35 Stage Dimensions

Unless otherwise noted, all units are in millimeters



Cables can be ordered as an option. Source using information below.

Motor Mating Connector

MOLEX: 51065-0600, MOLEX: 53261-0671

Motor Connector Pinout Table	
PIN	Signal
1	A
3	A-
4	B
6	B-

Encoder Mating Connector

MOLEX: 51021-0600, MOLEX: 50079-8100

Encoder Connector Pinout Table	
PIN	Signal
1	GND
2	A
3	A-
4	+5V DC
5	B
6	B-

Limit Sensor Mating Connector

JST: SHR-03V-S-B, JST: SSH-003T-P02-H

Limit Sensor Pinout Table	
PIN	Signal
1	GND
2	Limit Output
3	Supply Voltage

nPS35 Part Number Configurator

nPS35 - 03LS 12 - S1 D1

Model	Size
nPS	35*

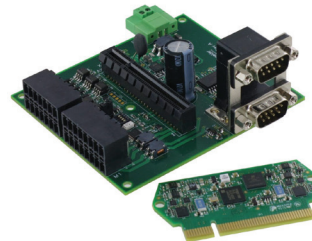
* NEMA 11 motor with E4T (1000 CPR) encoder

Screw Lead and Style	
Leadscrew 0.3048mm	Ball screw 0.5mm
03LS	05BS

Travel
12 mm

Limit Sensor	
00	No Limit
S1	NPN Magnetic Limit

Drives and Controls	
00	Cables Only (2m Length)
D1	Copley Stepnet TEL-090-07 (Single Axis)
D3	Novanta IMS LMM + Development Board (Single Axis)



Liberty Motion Module (LMM) ultra-compact programmable controller and driver is offered with optional interface boards, motors, and starter kit to speed your motion system design and development.

Click [here](#) to learn more about nPS35.

Contact Us

Let's connect today and discuss how we can partner on your next project. Call **1.949.586.7442** or email us at **moso-sales@novanta.com**. For specific locations, please use the contact information below.

To learn more about us and our engineered solutions see our product portfolio, white papers and catalogs at **www.motionsolutions.com**.



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