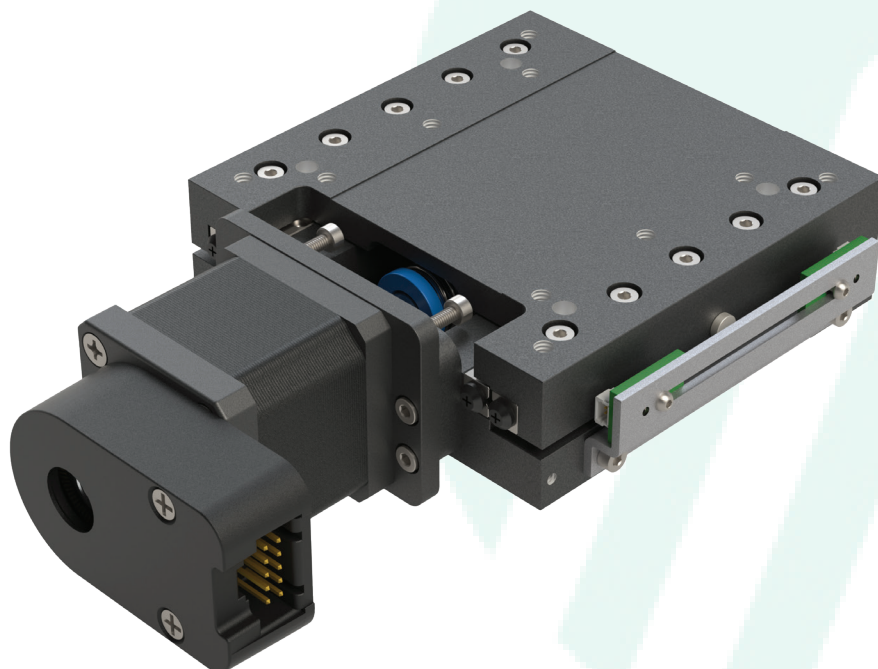




## nPS70 Stages

Compact Stages with Cross-Roller Bearings

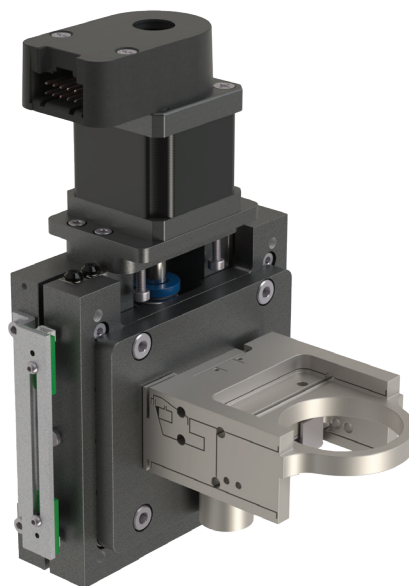
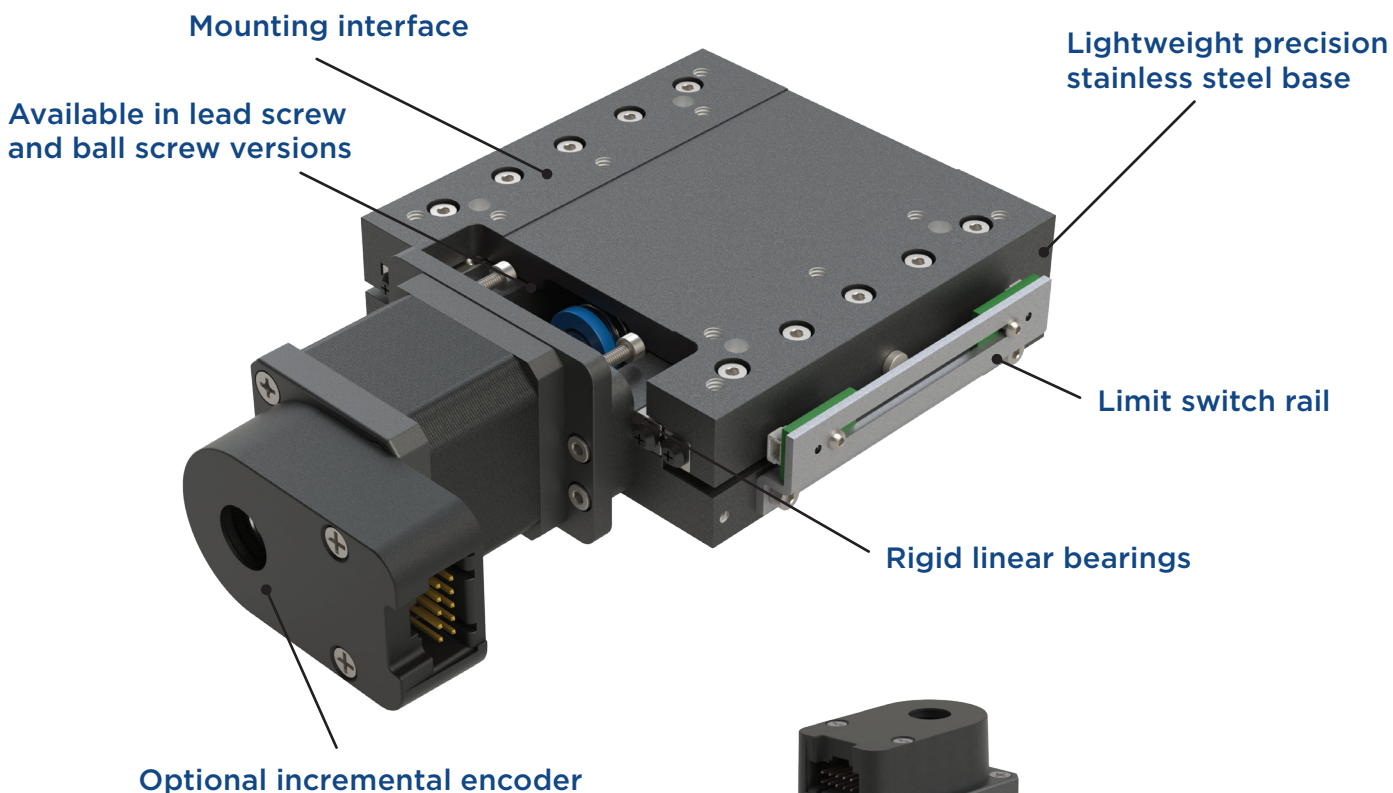


PRECISION MEDICINE

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.



nPS70 with z-focus. Our motorized precision positioners are designed to satisfy the demanding needs of the z-focus applications.

## nPS70 Stage 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 $\mu$ m	30 $\mu$ m
BI-DIRECTIONAL REPEATABILITY (Full Travel)	4 $\mu$ m	4 $\mu$ m
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

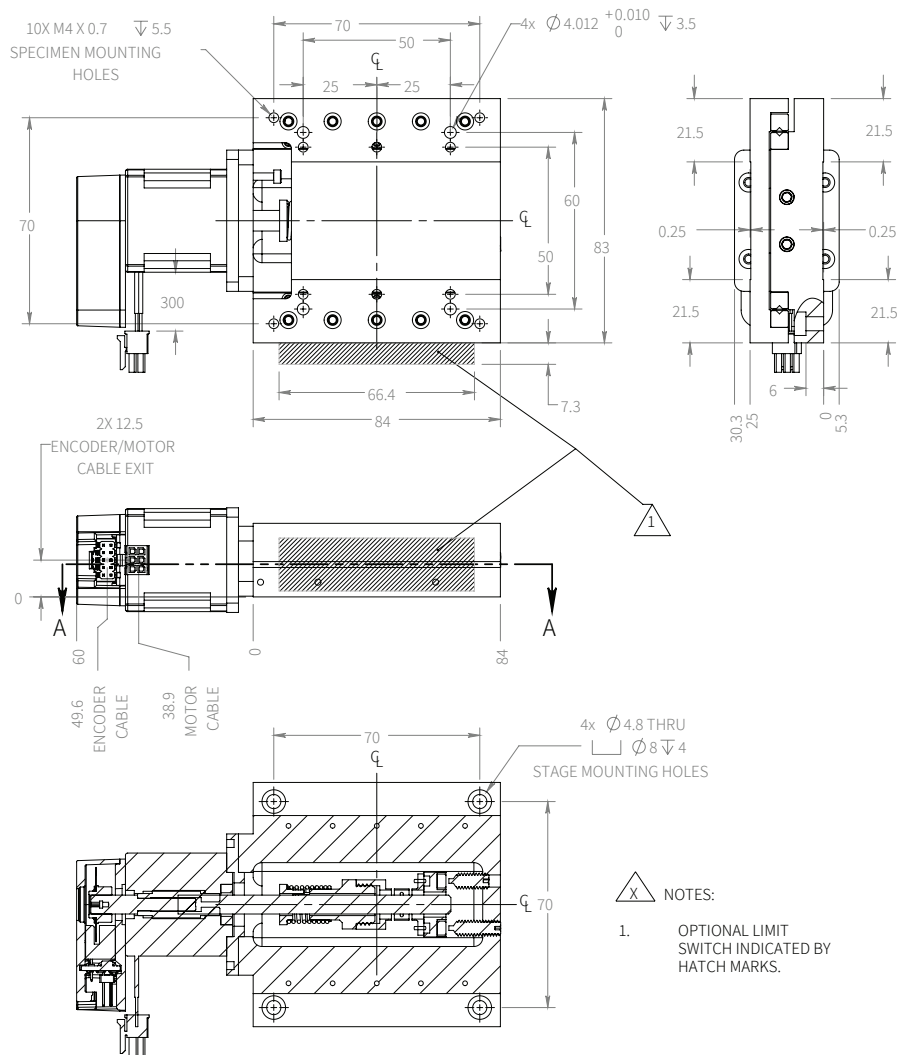
\*Smallest step that the drive can command when microstepping is used.

\*\*Smallest step that the stage can reliably perform.

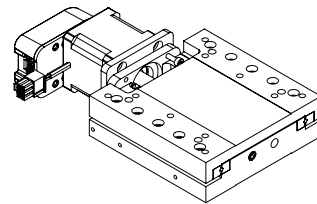
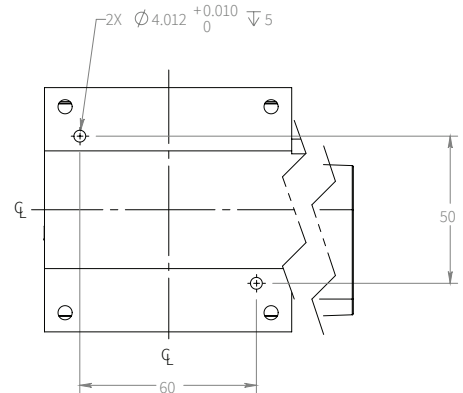
## Motor Specifications

Novanta IMS Motor	2 phase stepper
MOTOR STEP ANGLE	1.8 degrees
MOTOR MAX VOLTAGE	4.57 V
MOTOR RATED CURRENT	.75 A
MOTOR PHASE INDUCTANCE	8.3 $\pm$ 20% mH
MOTOR RESISTANCE	6.1 $\pm$ 10% Ohm

## nPS70 Stage Dimensions



Unless otherwise noted, all units are in millimeters



### Motor Mating Connector

MOLEX: 43020-0601, MOLEX: 43031-0001

Motor Connector Pinout Table	
PIN	Signal
1	A
2	NOT USED
3	A-
4	B
5	NOT USED
6	B-

### Encoder Mating Connector

MOLEX: 15-04-5104, MOLEX: (2x) 14-60-0058

Encoder Connector Pinout Table	
PIN	Signal
1	NOT USED
2	+5V DC
3	GROUND
4	NOT USED
5	A-
6	A+
7	B-
8	B+
9	INDEX-
10	INDEX+

## nPS70 Part Number Configurator

nPS70 - 05LS 25 - S1 D1

Model	Size
nPS	70*

\* NEMA 14 motor with E5 (5000 CPR) encoder

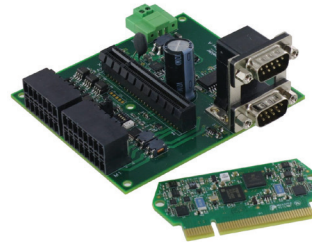
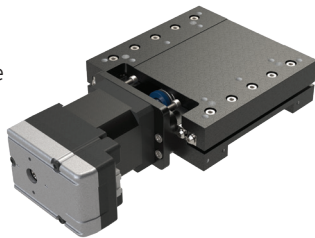
Screw Lead and Style	
Leadscrew	Ball screw
0.50mm	1.0mm
05LS	10BS

Travel
25 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)
D2	Novanta IMS Mdrive Smart Motor
D3	Novanta IMS LMM-15-M (Serial) + LMM-INT-1 Dev Board (Single Axis)

nPS70 with Novanta IMS Mdrive Smart Motor (option D2)



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 nPS70.

## 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](mailto: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](http://www.motionsolutions.com)**.



15091 Bake Pkwy  
Irvine, CA 92618

t: 949.586.7442

f: 949.586.7786

951 Lawrence Dr.  
Newbury Park, CA 91320

t: 949.586.7442

3030 Laura Ln., #100  
Middleton, WI 53562

t: 608.842.6275