

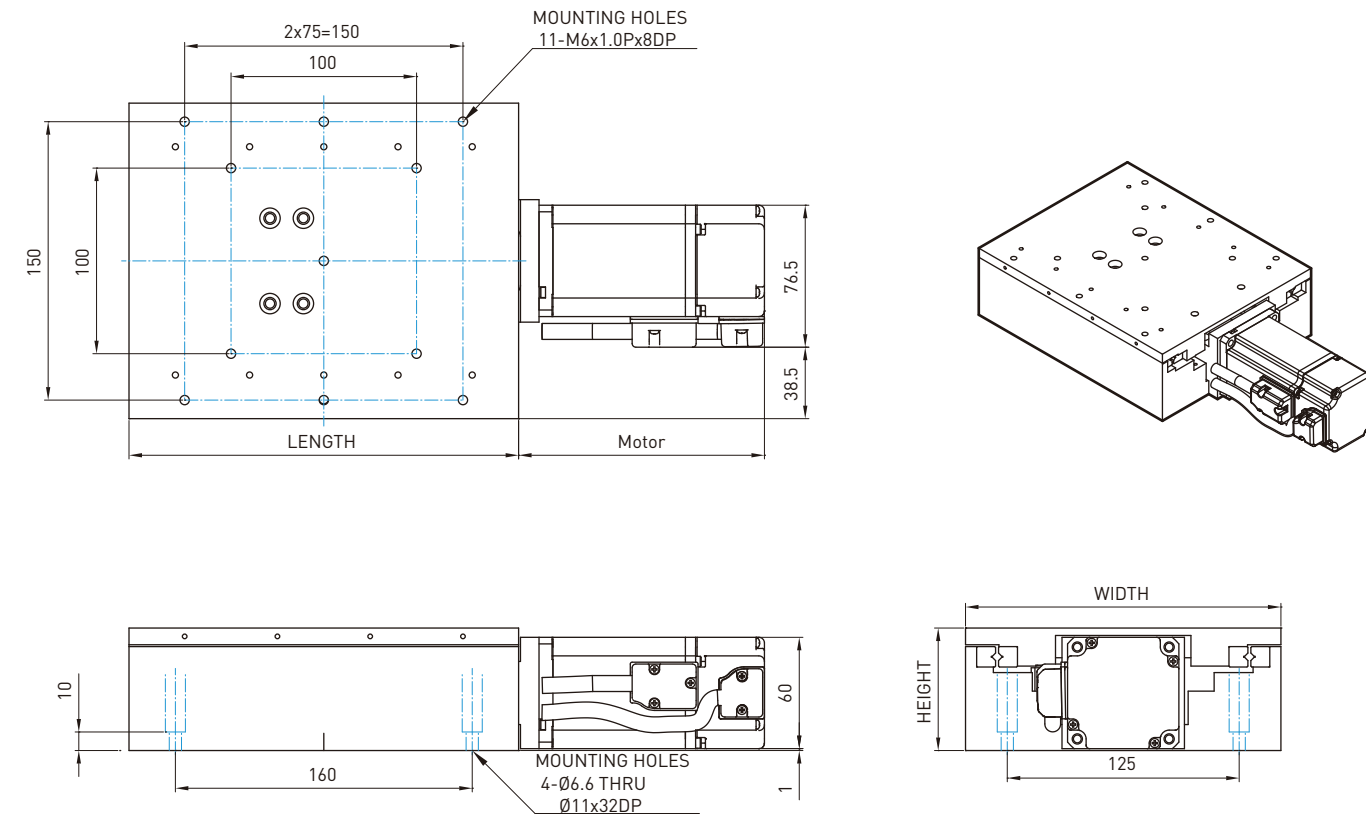
## Mechanical Specifications

NPS series  
AC stage

Specifications	Unit	200W		400W	
Stroke	mm	50	100	50	100
Ball Screw Pitch	mm	2			
Continuous Current	Arms	1.7		2.5	
Peak Current	Arms	5.1		7.5	
Maximum Velocity	(mm/s)	100		100	
Accuracy	μm	±3		±3	
Bi-directional Repeatability	μm	±0.3		±0.3	
Straightness & Flatness	μm	±1.5		±1.5	
Pitch	arc-sec	±5		±5	
Yaw	arc-sec	±5		±5	
Normal Load Capacity	kg	25		40	
Stage Weight	kg	6.5		8	
Moving Slide Material	-	Aluminum With Black Hard Anodized Finish			

## Dimensions

NPS series  
AC stage

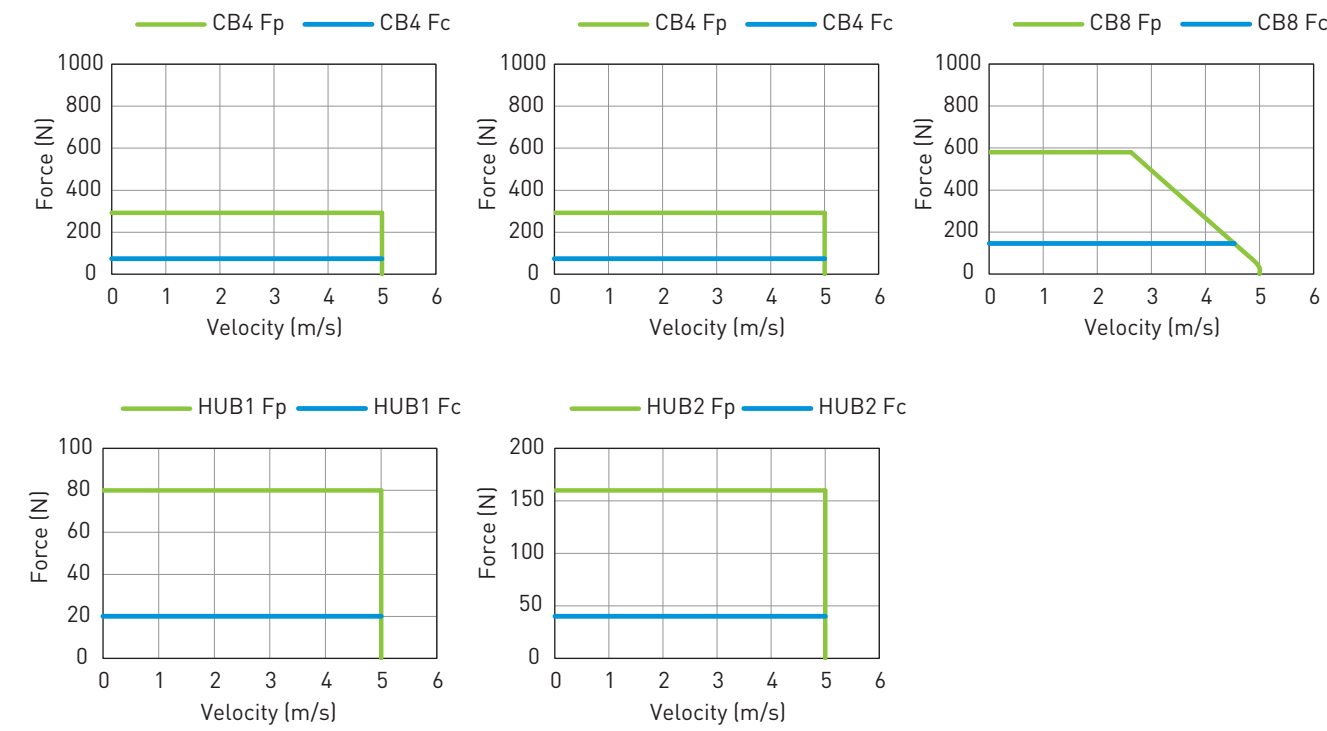


Model	Stroke	Dimension			
		LENGTH	WIDTH	HEIGHT	MOTOR
NPS-AC-20-05	50	210	170	67	111(144)
NPS-AC-20-10	100	265	170	67	111(144)
NPS-AC-40-05	50	210	170	67	137(170)
NPS-AC-40-10	100	265	170	67	137(170)

1. All dimensions are in millimeters.  
2. ( ) include brake size.

## Linear Motor Performance

Force / Velocity curve(DC bus = 325V)



## Linear motor stage

1.5 μm Straightness & flatness  
37 mm Low profile

- High stiffness crossed roller bearings
- Ironless direct-drive linear motor



## AC servo motor stage

100 nm Minimum incremental motion

- Precision ground ball screws
- High stiffness crossed roller bearings
- Available for Z axis application

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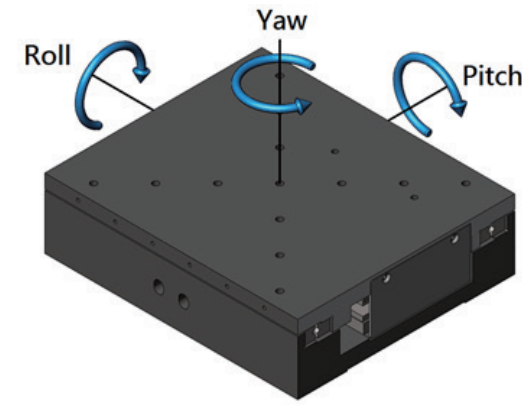
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# NPS Series

## Nano Precision Stage

## Load Characteristics

### NPS series LM stage



Model	Stroke	Roll[N-m]	Yaw(N-m)	Pitch(N-m)
HUB1	50	145	160	170
	100	175	220	210
HUB2	50	218	314	302
	100	254	455	472
CB4	50	610	513	488
	100	784	759	729
CB6	50	865	759	729
	100	1230	1390	1350
CB8	50	1230	1390	1350
	100	1680	1780	1730

## Model Description

### NPS- L - UB1 - 05A - 03

#### Model Series

Nano Precision Stage  
- Linear motor

#### Motor Type

UB1 : LMC-HUB1  
UB2 : LMC-HUB2  
CB4 : LMCB4  
CB6 : LMCB6  
CB8 : LMCB8

#### Stroke

05: 50mm  
10: 100mm

#### Linear Encoder Type

A: Optical, Analog 1Vpp Sin/Cos, Stainless steel scale  
B: Optical, Analog 1Vpp Sin/Cos, Invar scale  
C: Optical, Digital, Resolution 0.1µm, Stainless steel scale (standard)  
D: Optical, Digital, Resolution 0.1µm, Invar scale

#### Cable Length

N: No Cable  
03: 3m  
05: 5m  
07: 7m

## Mechanical Specifications

### NPS series LM stage

Specifications	Unit	CB4	CB6	CB8			
Stroke	mm	50	100	50	100		
Peak Force	N	292	436	580			
Continuous Force	N	73	109	145			
Peak Current	A	8	8	8			
Continuous Current	A	2	2	2			
Resolution	µm	0.1	0.1	0.1			
Bi-directional Repeatability <sup>1</sup>	µm	±0.2	±0.2	±0.2			
Accuracy <sup>1</sup>	µm	±1	±1	±1	±1		
Straightness <sup>1</sup>	µm	1.5	2	1.5	2		
Flatness <sup>1</sup>	µm	1.5	2	1.5	2		
Pitch <sup>1</sup>	arc-sec	±5	±5	±5	±5		
Yaw <sup>1</sup>	arc-sec	±5	±5	±5	±5		
Normal Load Capacity	kg	30	40	50			
Maximum Acceleration <sup>2</sup>	(m/s <sup>2</sup> )	2	2	2			
Maximum Velocity <sup>2</sup>	(m/s)	0.2	0.2	0.2			
Material	-	Aluminum With Black Hard Anodized Finish					
Stage Weight	kg	7	8	8	10	10	12

Specifications	Unit	HUB1	HUB2		
Stroke	mm	50	100	50	100
Peak Force	N	80	160		
Continuous Force	N	20	40		
Peak Current	A	6.2	12.3		
Continuous Current	A	1.5	3.1		
Resolution	µm	0.1	0.1		
Bi-directional Repeatability <sup>1</sup>	µm	±0.2	±0.2		
Accuracy <sup>1</sup>	µm	±1	±1	±1	±1
Straightness <sup>1</sup>	µm	1.5	2	1.5	2
Flatness <sup>1</sup>	µm	1.5	2	1.5	2
Pitch <sup>1</sup>	arc-sec	±5	±5	±5	±5
Yaw <sup>1</sup>	arc-sec	±5	±5	±5	±5
Normal Load Capacity	kg	10	20		
Maximum Acceleration <sup>2</sup>	(m/s <sup>2</sup> )	2	2		
Maximum Velocity <sup>2</sup>	(m/s)	0.2	0.2		
Material	-	Aluminum With Black Hard Anodized Finish			
Stage Weight	kg	1.5	2	2	1.5

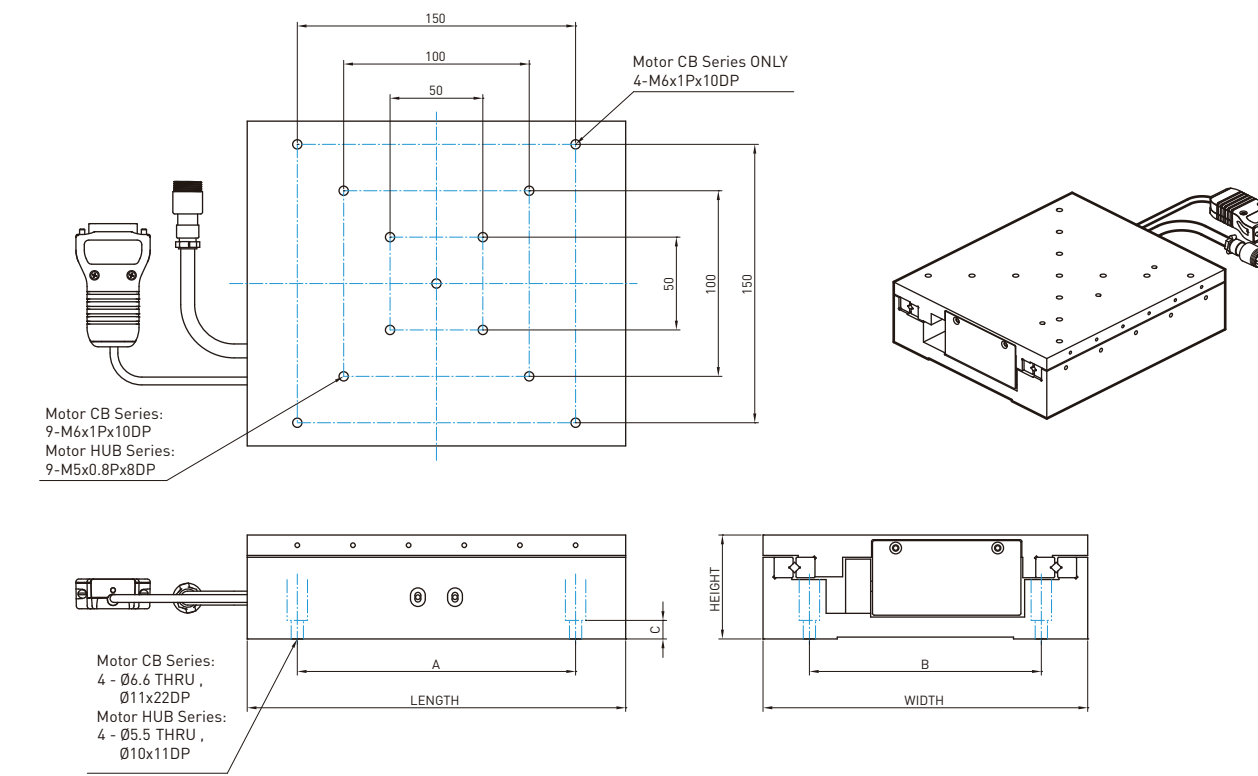
Note1:All measurement is measured in the center of stage.

Note2:Maximum velocity and acceleration are measured with payload.

Note3:After error compensation.

## Dimensions

### NPS series LM stage



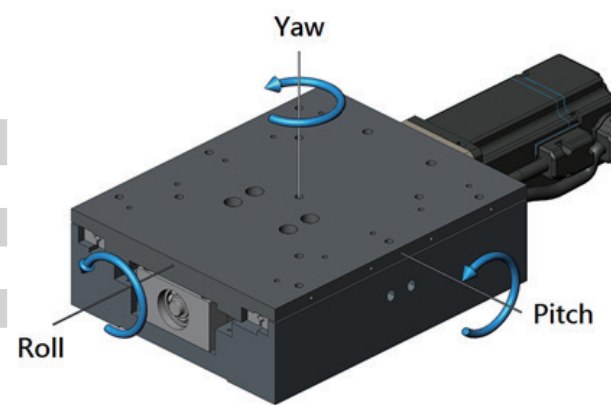
Model	Stoke	Dimension					
		LENGTH	WIDTH	HEIGHT	A	B	C
LMC-HUB1	50	127	125	37	100	75	6
	100	195	125	37	100	75	6
LMC-HUB2	50	195	125	37	135	75	6
	100	245	125	37	135	75	6
LMCB4	50	204	175	60	160	125	12
	100	260	175	60	160	125	12
LMCB6	50	270	175	60	215	125	12
	100	324	175	60	215	125	12
LMCB8	50	334	175	60	280	125	12
	100	388	175	60	280	125	12

All dimensions are in millimeters.

## Load Characteristics

### NPS series AC stage

Model	Units	Pitch	Roll	Yaw
NPS-AC-20-05	N-m	488	576	513
NPS-AC-20-10	N-m	729	698	759
NPS-AC-40-05	N-m	488	576	513
NPS-AC-40-10	N-m	729	698	759



## Model Description

### NPS- AC - 40B - 053 - 03

#### Model Series

Nano Precision Stage  
- AC servomotor

#### Motor Type

20: 200W  
20B: 200W with Brake  
40: 400W  
40B: 400W with Brake

#### Stroke

05: 50mm  
10: 100mm

#### Encoder Type

4: 17 bit absolute encoder  
6: HIWIN17 bit incremental encoder

#### Cable Length

N: No Cable  
03: 3m  
05: 5m  
07: 7m