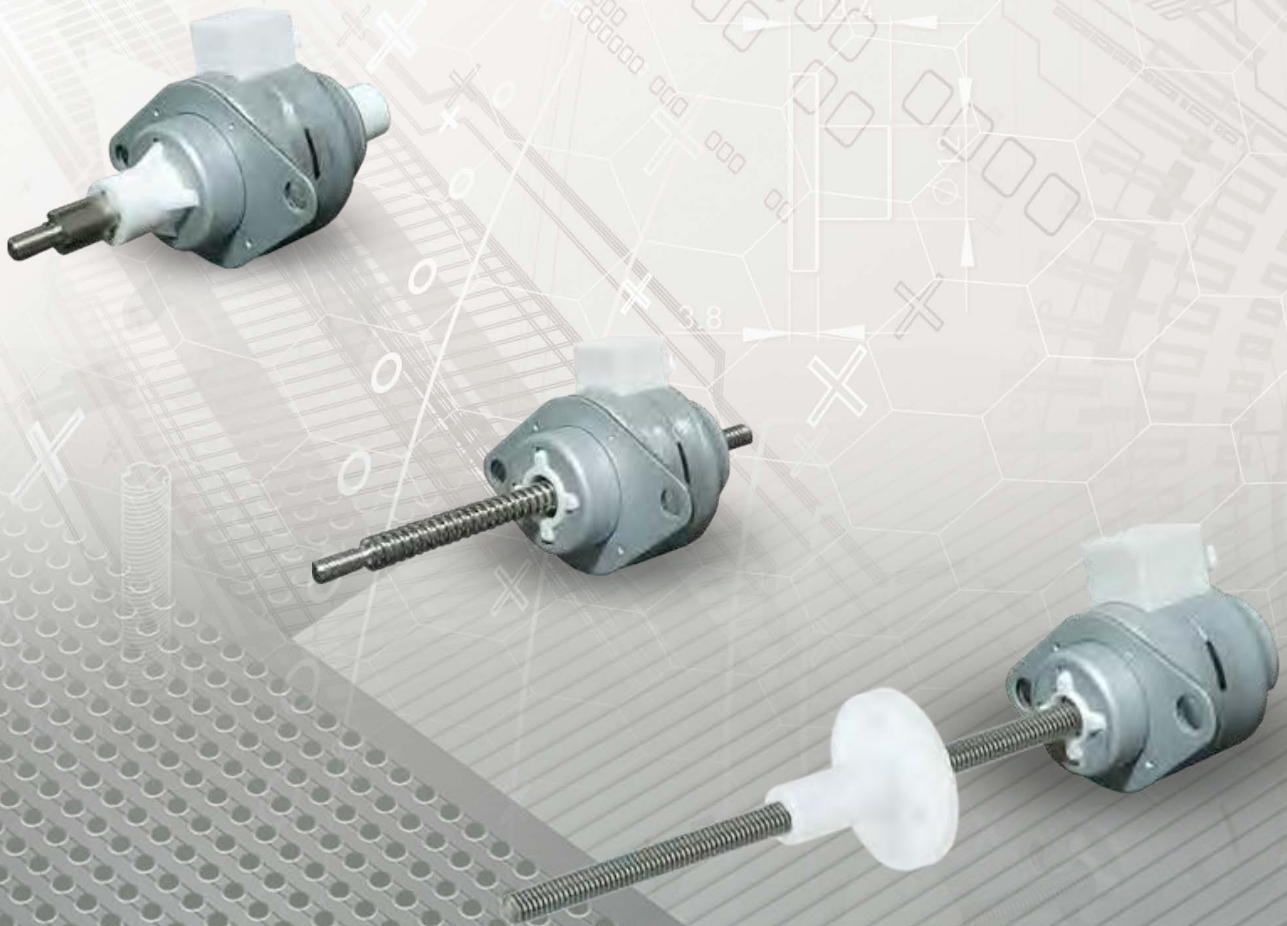


# DINGS'

Precision Motion Specialist

## PM STEPPER LINEAR ACTUATOR PRODUCT CATALOG



DINGS' Permanent Magnetic PM Stepper Linear Actuators are available as 20/25/36mm sizes via External, Non-Captive and Kaptive series especially for economic application usage with Max. 115N linear force.

This is very economic linear actuator solution but still we use high quality of lead screw and Derlin plastic nut to ensure quality. Typical applications includes medical equipment like diagnostics, analyzers and also laboratory applications like microscope, tester, measurement device or etc.



# PM Stepper Linear Actu

# CONTENTS

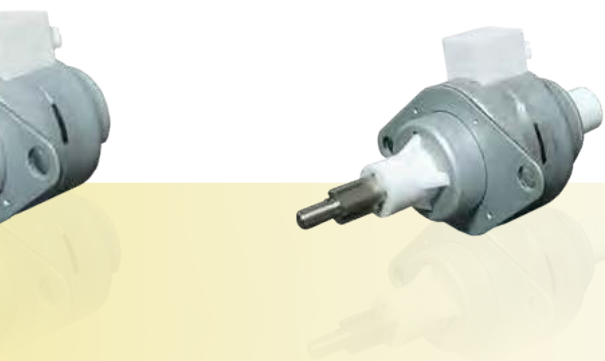
Part number construction

Product overview

20 mm

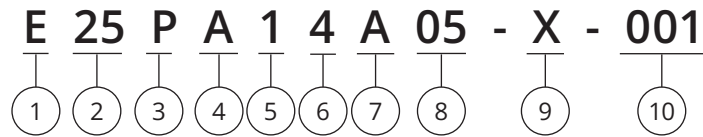
25 mm

36 mm



# uator

## Part Number Construction



- |  |  |
|--|--|
| <p>① Motor Type<br/>E = External<br/>N = Non-captive<br/>K = Kaptive</p> <p>② Motor Size<br/>20mm<br/>25mm<br/>36mm</p> <p>③ Product Name<br/>PM stepper linear actuator</p> <p>④ Mounting<br/>A = Flange and wiring box<br/>B = Flange only<br/>C = Wiring box only<br/>D = No flange or wiring box<br/><i>A &amp; C is not available for Uni-Polar (6 wiring)</i></p> <p>⑤ Motor Step Angle<br/>1 = 7.5°<br/>2 = 15°<br/>3 = 18°</p> | <p>⑥ Wiring Number<br/>4 = Bi-polar (4 wiring)<br/>6 = Uni-polar (6 wiring)</p> <p>⑦ Lead Screw Code<br/>Please refer to lead screw code selection table</p> <p>⑧ Winding Code<br/>05 = 5V<br/>12 = 12V</p> <p>⑨ Screw Length / Stroke<br/>Kaptive = stroke distance<br/>Non-captive = total length of screw<br/>External = screw extension length from the mounting flange</p> <p>⑩ Customization Sequence Number</p> |
|--|--|

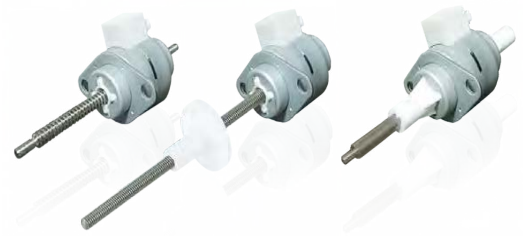
### Example

Naming code	E25PA14AA05-X-001
Description	<p>Φ25 mm size</p> <p>External type with mounting flange and wiring box</p> <p>2 Phase 7.5° step angle</p> <p>Bi-polar</p> <p>Screw Lead AA</p> <p>5V winding</p> <p>Screw extension X mm</p> <p>Customization sequence number is 001</p>

## Product Overview

Motor Size	Screw diameter (mm)	Screw lead (mm)	Travel per step (mm)		Max. thrust force (N)	Power consumption (W)	Screw lead code
			7.5°	15°			
Φ20	Φ3.5	0.6096	0.0127	0.0254	35	3.4	AA
		1.2192	0.0254	0.0508			B
		2.4384	0.0508	0.1016			J
Φ25	Φ3.5	0.6096	0.0127	0.0254	65	3.9	AA
		1.2192	0.0254	0.0508			B
		2.4384	0.0508	0.1016			J
Φ36	Φ6.35	0.6096	0.0127	0.0254	115	5.6	AA
		1.2192	0.0254	0.0508			B
		2.4384	0.0508	0.1016			J

## 20mm Series



### Motor Characteristics

Polarity	Bi-polar			
Linear actuator type	Kaptive, Non-captive, External			
Step angle	7.5°		15°	
Winding	5V	12V	5V	12V
Phase current	370mA	160mA	370mA	160mA
Phase resistance	13.5Ω	74.5Ω	13.5Ω	76Ω
Phase inductance	6.5mH	36mH	4mH	25mH
Power consumption	3.4W			
Rotor inertia	1.05gcm <sup>2</sup>			
Insulation class	B			
Insulation resistance	100MΩ			
Mass	35g			

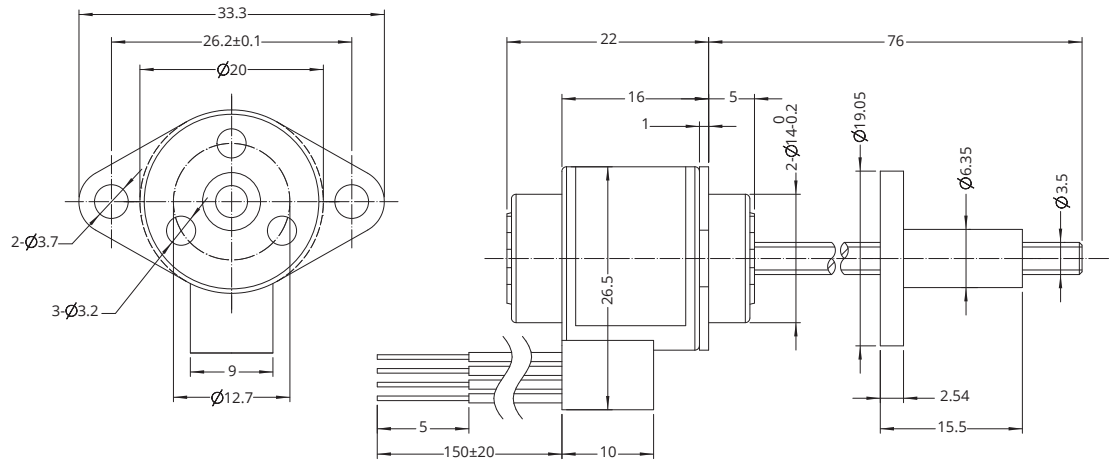
### Available Lead Screw and Travel per Step

Step angle	Screw lead		Travel per step		Screw lead code
	mm	inch	mm	inch	
7.5°	0.6096	0.024	0.0127	0.0005	AA
	1.2192	0.048	0.0254	0.0010	B
	2.4384	0.096	0.0508	0.0020	J
15°	0.6096	0.024	0.0254	0.0010	AA
	1.2192	0.048	0.0508	0.0020	B
	2.4384	0.096	0.1016	0.0040	J

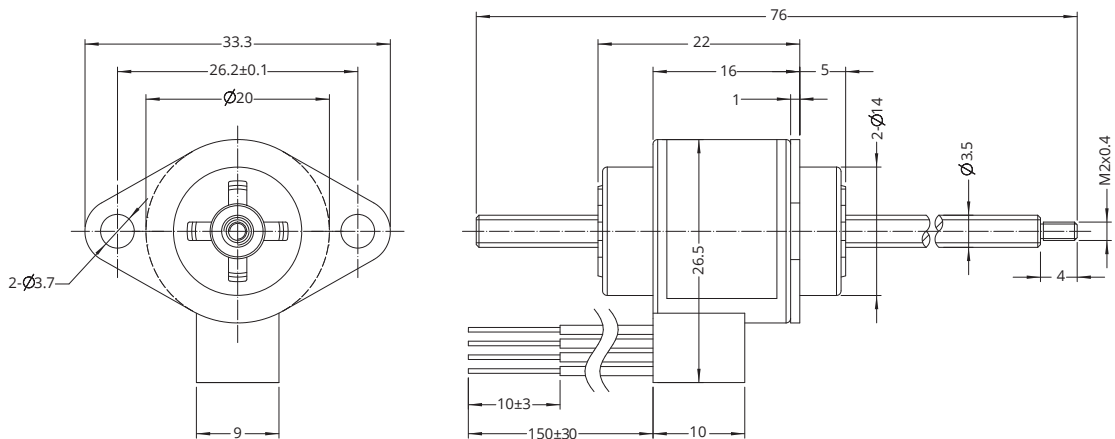
## 20mm Series

### Dimensional Drawings

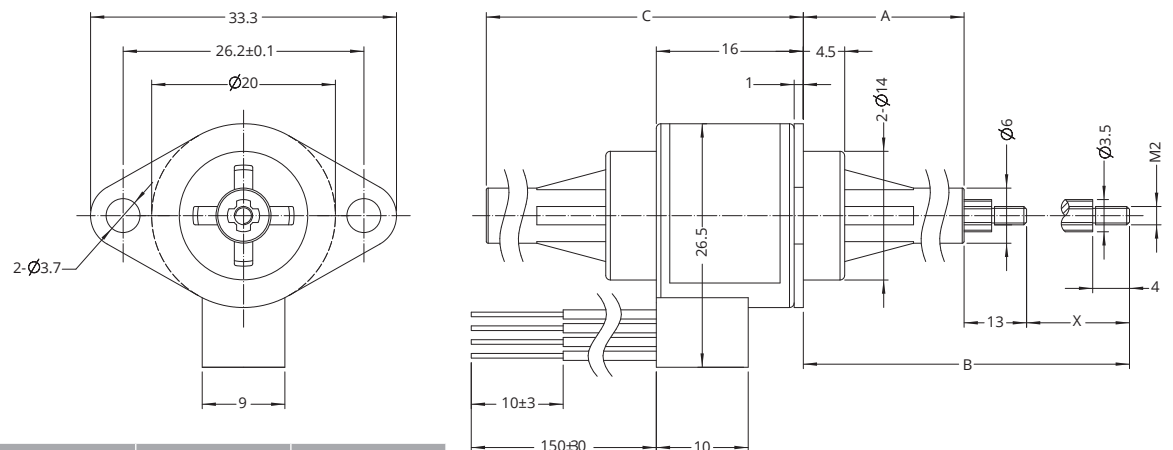
#### 1. External



#### 2. Non-captive



#### 3. Kaptive

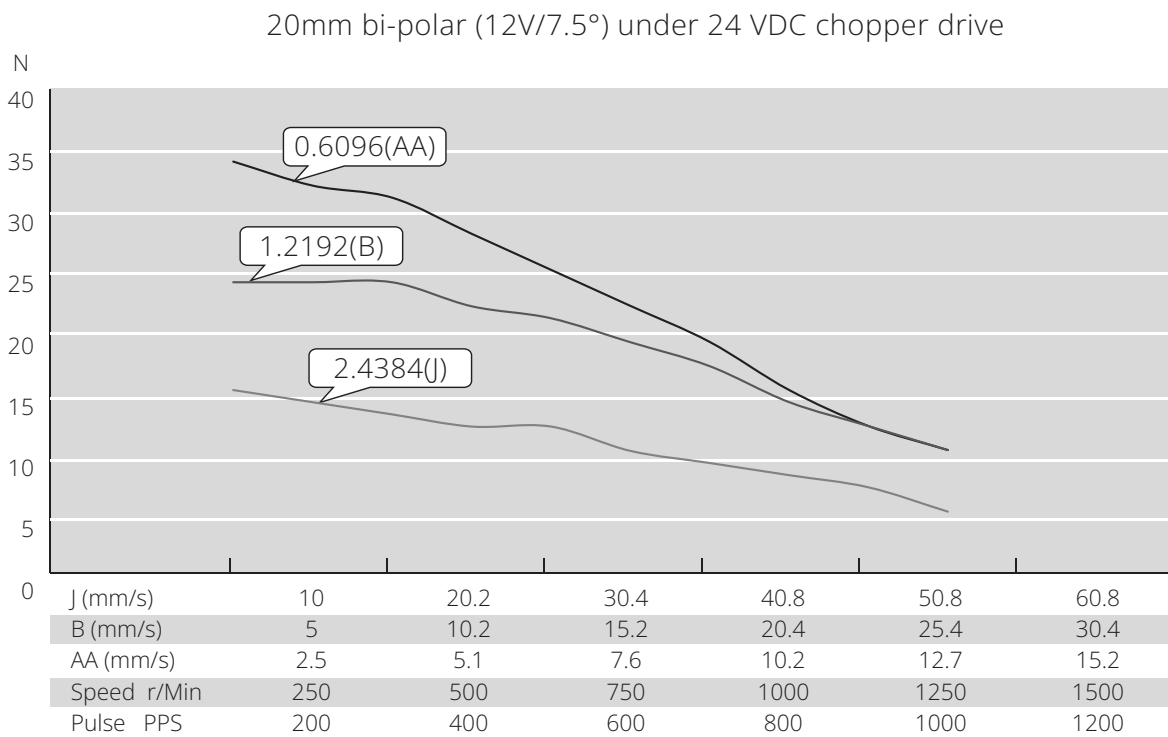
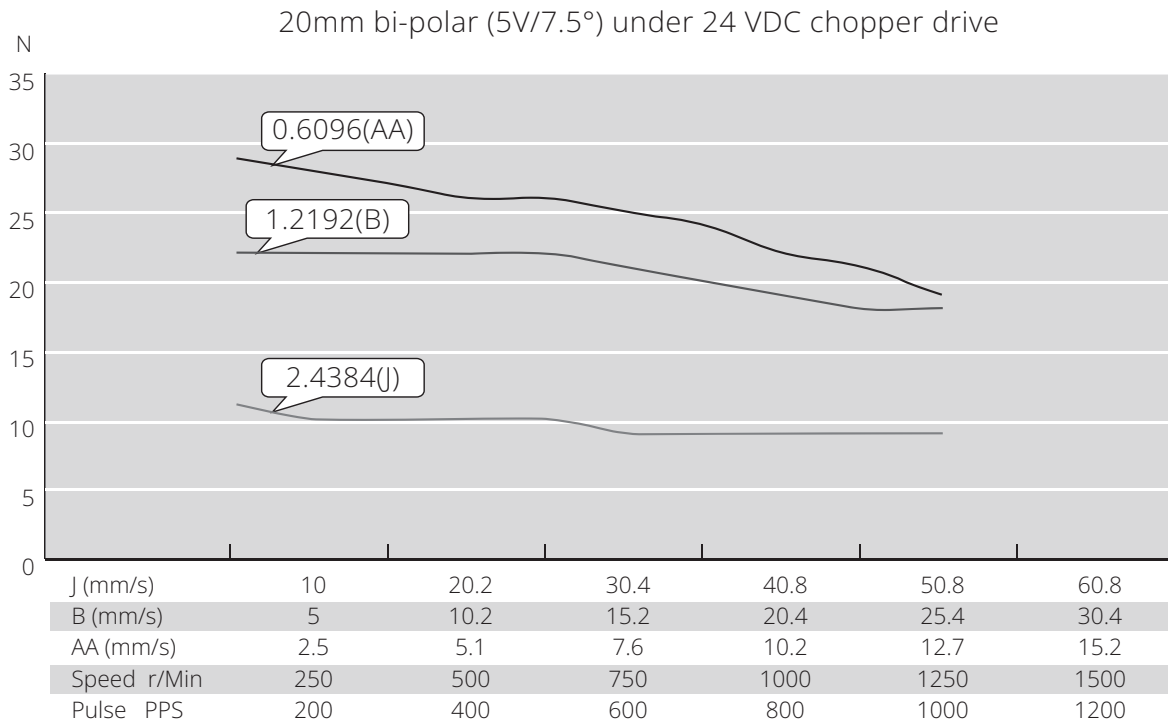


Stroke X	Front extension A	Total extension B	Body length C (Max.)
14	13.5±0.25	40.5	30.5
18	17.5±0.25	48.5	34.5
25	24.5±0.25	62.5	41.5
31	30.5±0.25	74.5	47.5

Note : All drawings are 1st Angle Projection - ISO Compliant (3D models available)

## 20mm Series

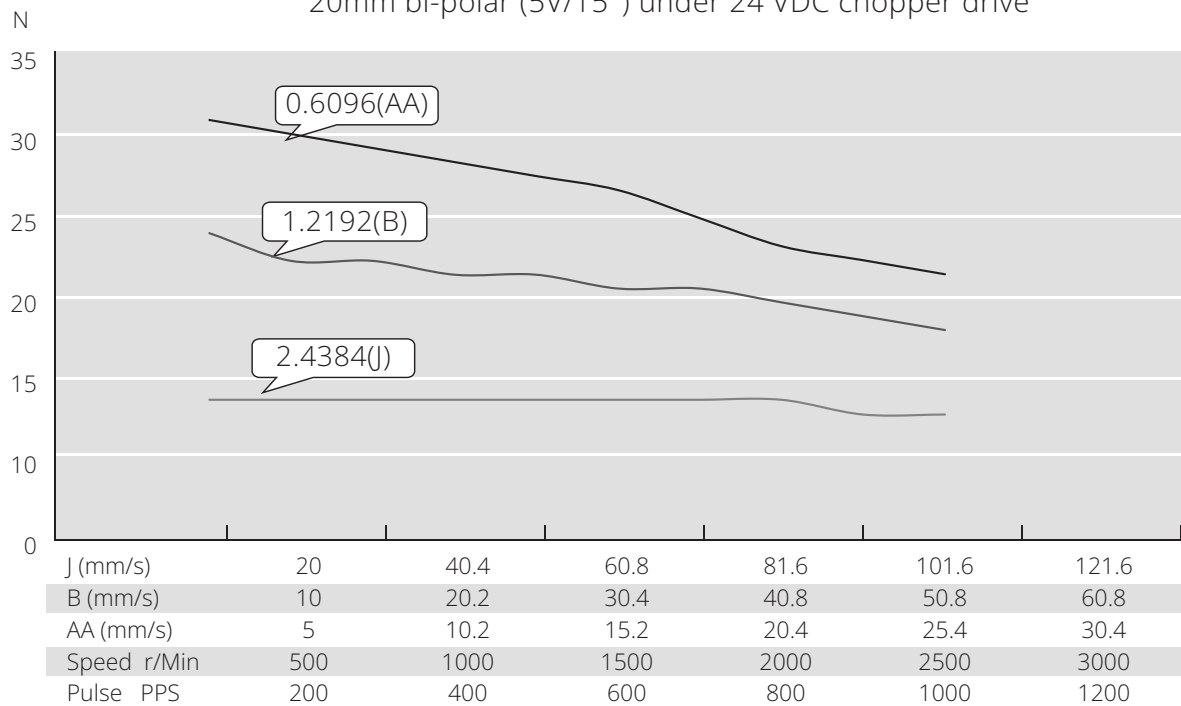
### Speed Thrust Curves



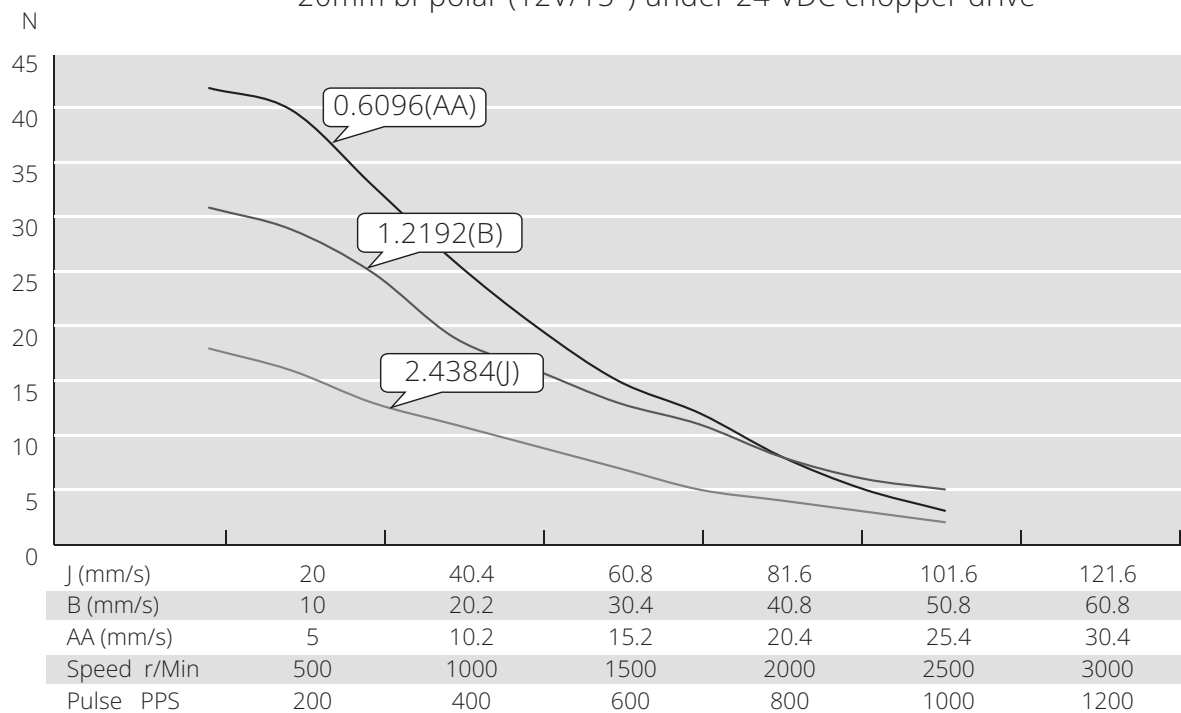


## 20mm Series

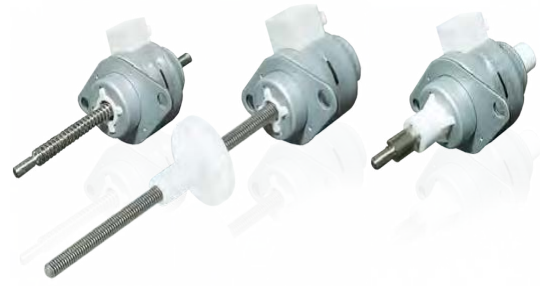
20mm bi-polar (5V/15°) under 24 VDC chopper drive



20mm bi-polar (12V/15°) under 24 VDC chopper drive



## 25mm Series



### Motor Characteristics

Polarity	Bi-polar			
Linear actuator type	Kaptive, Non-captive, External			
Step angle	7.5°		15°	
Winding	5V	12V	5V	12V
Phase current	370mA	160mA	370mA	160mA
Phase resistance	13.5Ω	70Ω	13.5Ω	70Ω
Phase inductance	12.5mH	65mH	9.5mH	47mH
Power consumption	3.85W			
Rotor inertia	1.08gcm <sup>2</sup>			
Insulation class	B			
Insulation resistance	100MΩ			
Mass	50g			

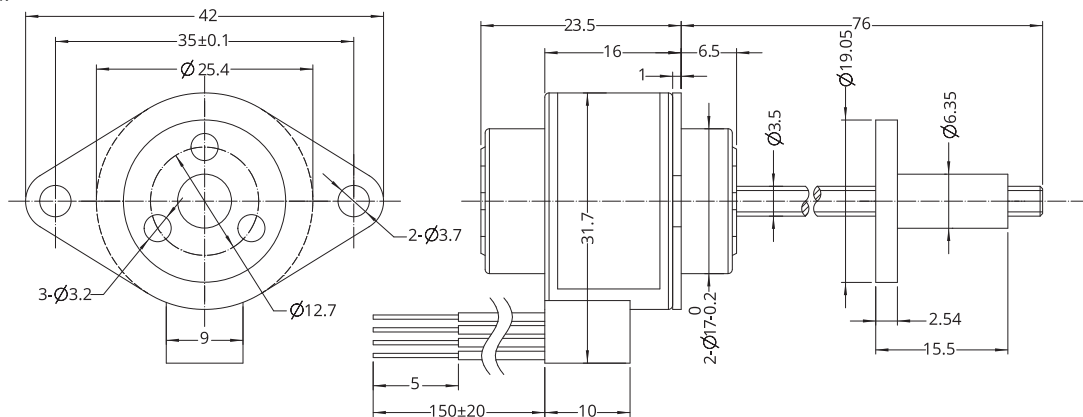
### Available Lead Screw and Travel per Step

Step angle	Screw lead		Travel per step		Screw lead code
	mm	inch	mm	inch	
7.5°	0.6096	0.024	0.0127	0.0005	AA
	1.2192	0.048	0.0254	0.0010	B
	2.4384	0.096	0.0508	0.0020	J
15°	0.6096	0.024	0.0254	0.0010	AA
	1.2192	0.048	0.0508	0.0020	B
	2.4384	0.096	0.1016	0.0040	J

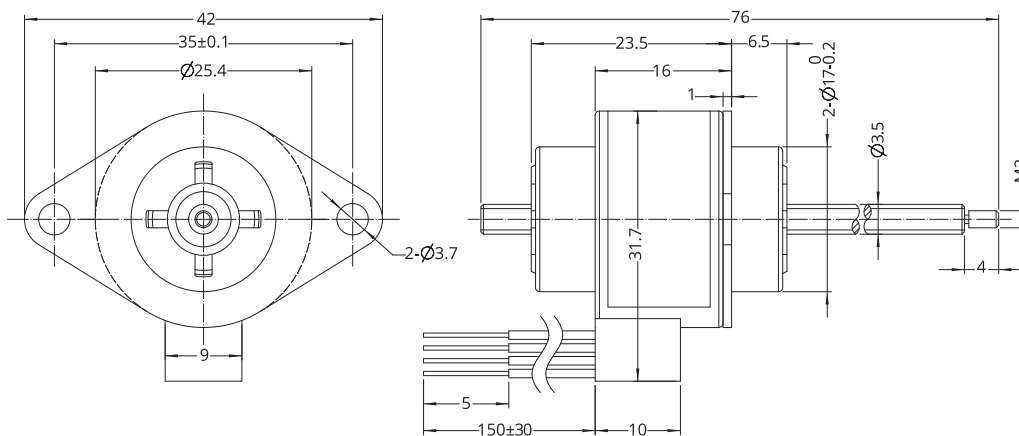
## 25mm Series

### Dimensional Drawings

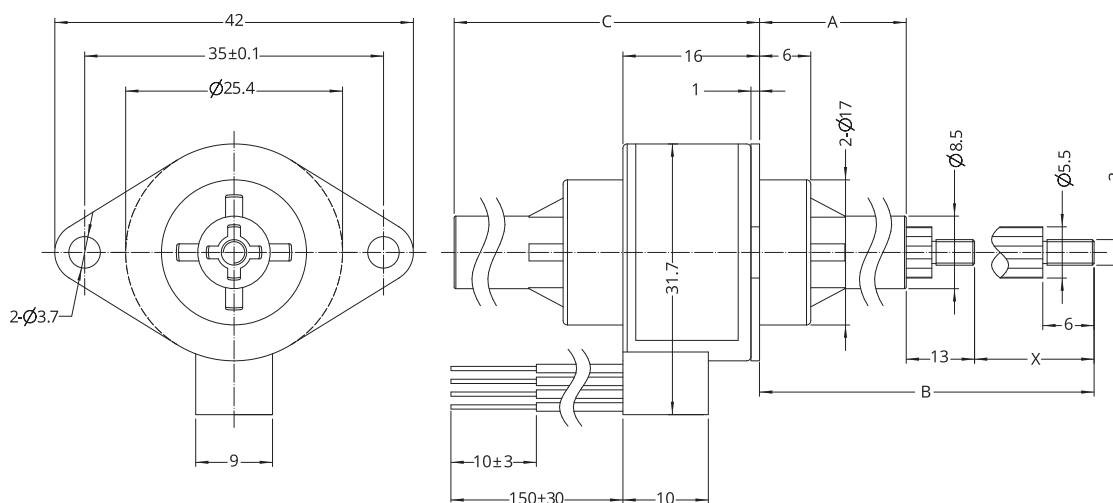
#### 1. External



#### 2. Non-captive



#### 3. Kaptive



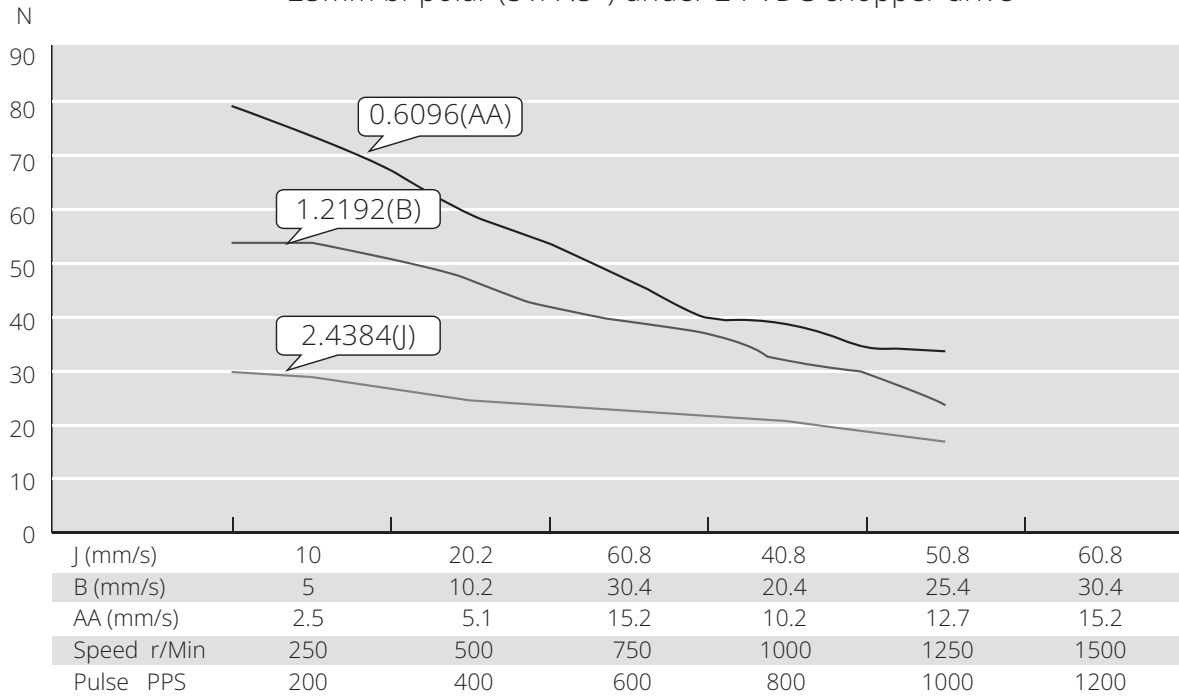
Stroke X	Front extension A	Total extension B	Body length C (Max.)
13	10.5±0.25	36.5	27.5
18	15.5±0.25	46.5	32.5
25	22.5±0.25	60.5	39.5
31	28.5±0.25	72.5	45.5

Note : All drawings are 1st Angle Projection - ISO Compliant (3D models available)

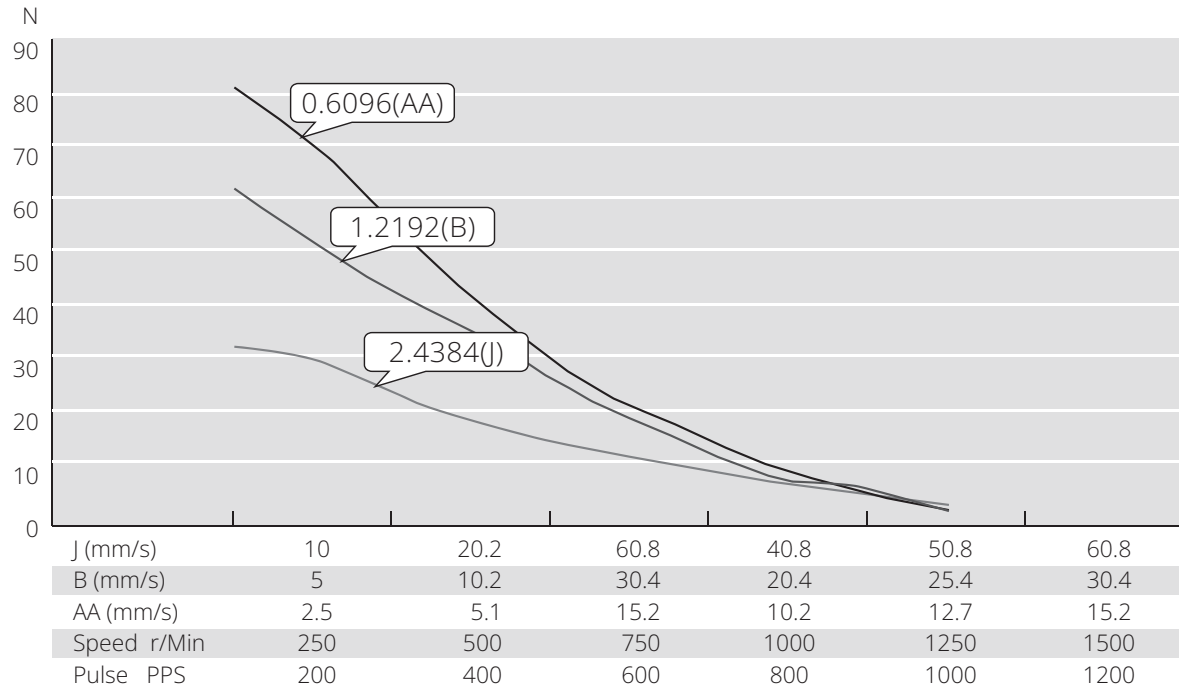
## 25mm Series

### Speed Thrust Curves

25mm bi-polar (5V/7.5°) under 24 VDC chopper drive

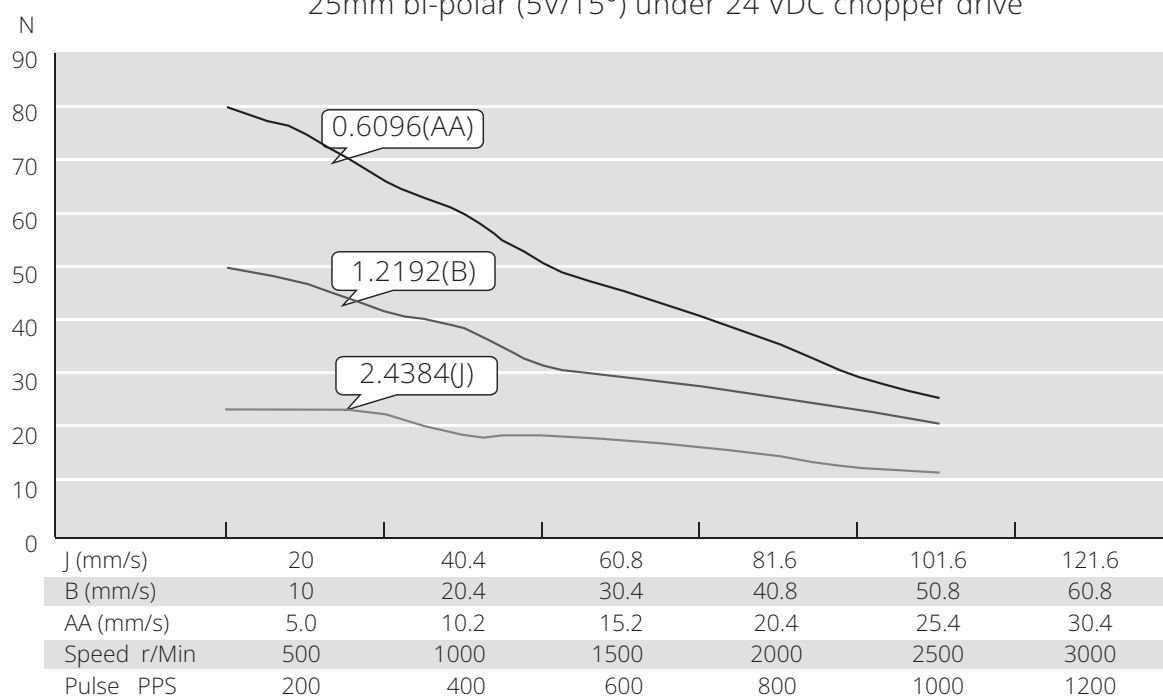


25mm bi-polar (12V/7.5°) under 24 VDC chopper drive

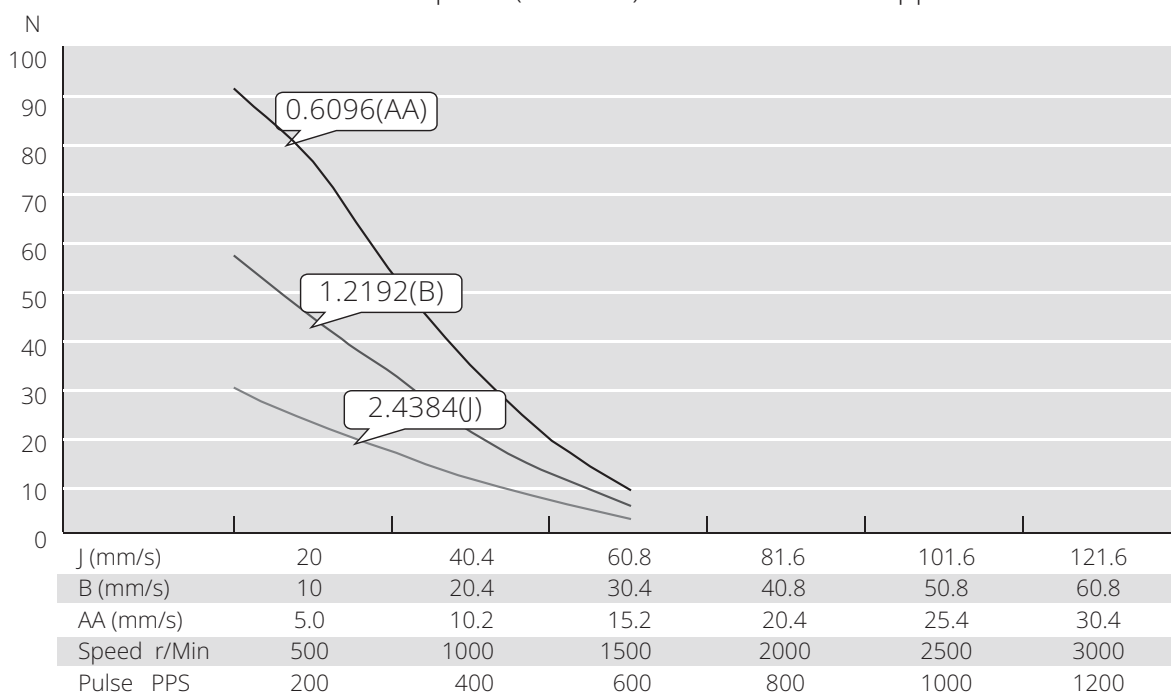


## 25mm Series

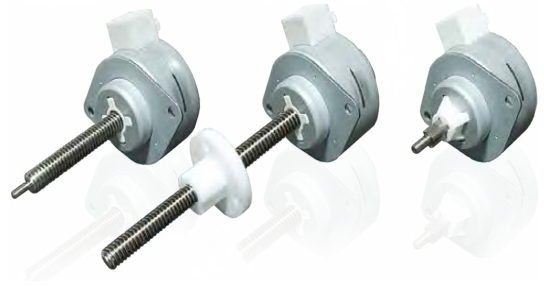
25mm bi-polar (5V/15°) under 24 VDC chopper drive



25mm bi-polar (12V/15°) under 24 VDC chopper drive



## 36mm Series



### Motor Characteristics

Polarity	Bi-polar			
Linear actuator type	Kaptive, Non-captive, External			
Step angle	7.5°		15°	
Winding	5V	12V	5V	12V
Phase current	560mA	230mA	560mA	230mA
Phase resistance	9Ω	52Ω	9Ω	52Ω
Phase inductance	11.5mH	72mH	8mH	56mH
Power consumption	5.6W			
Rotor inertia	8.5gcm <sup>2</sup>			
Insulation class	B			
Insulation resistance	100MΩ			
Mass	120g			

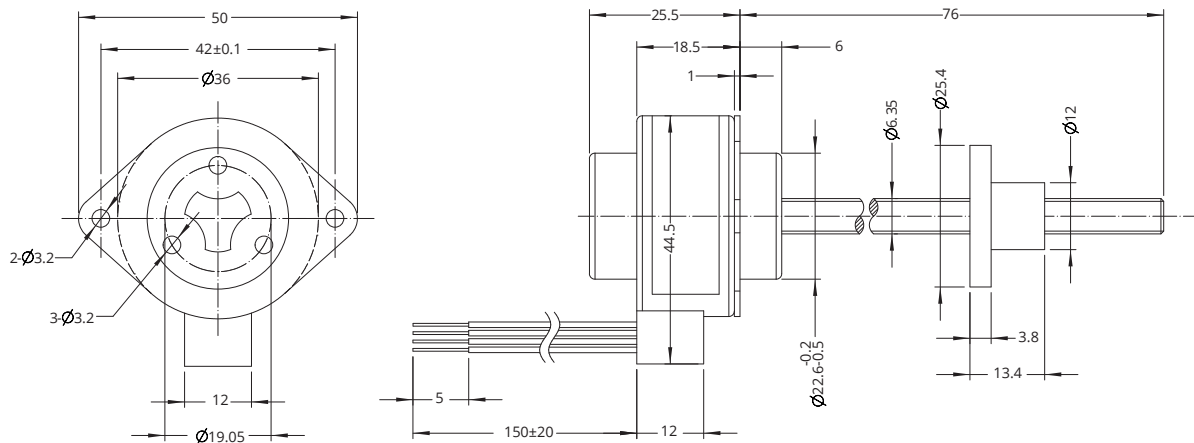
### Available Lead Screw and Travel per Step

Step angle	Screw lead		Travel per step		Screw lead code
	mm	inch	mm	inch	
7.5°	0.6096	0.024	0.0127	0.0005	AA
	1.2192	0.048	0.0254	0.0010	B
	2.4384	0.096	0.0508	0.0020	J
15°	0.6096	0.024	0.0254	0.0010	AA
	1.2192	0.048	0.0508	0.0020	B
	2.4384	0.096	0.1016	0.0040	J

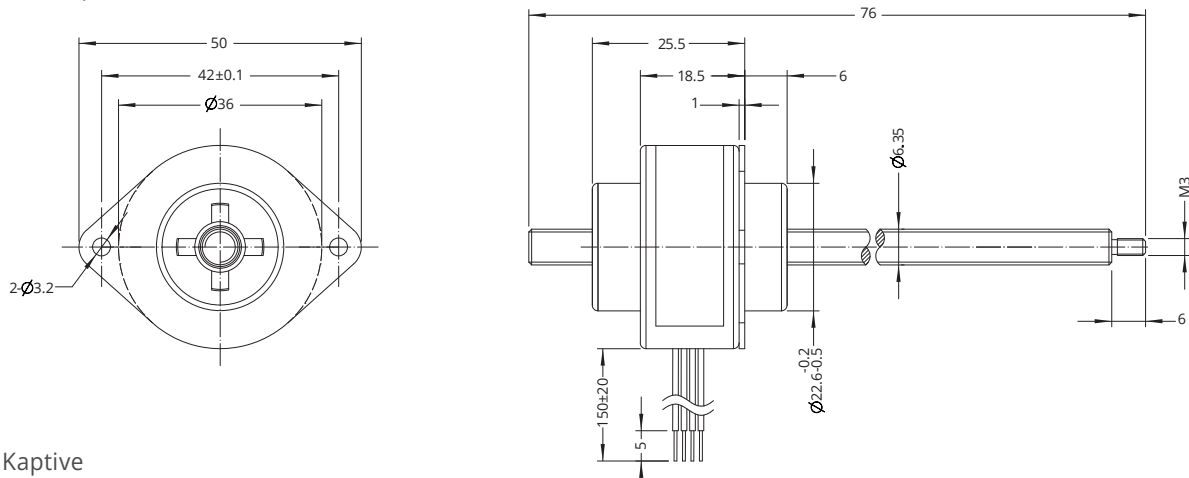
## 36mm Series

### Dimensional Drawings

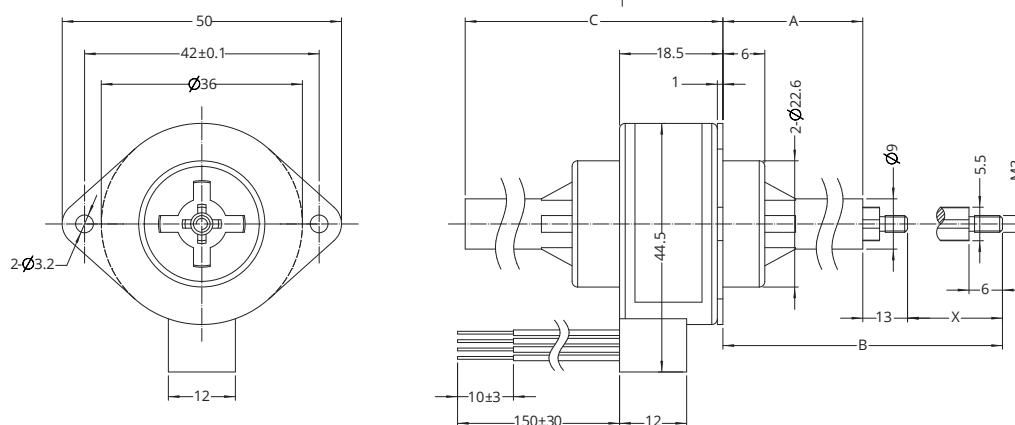
#### 1. External



#### 2. Non-captive



#### 3. Kaptive



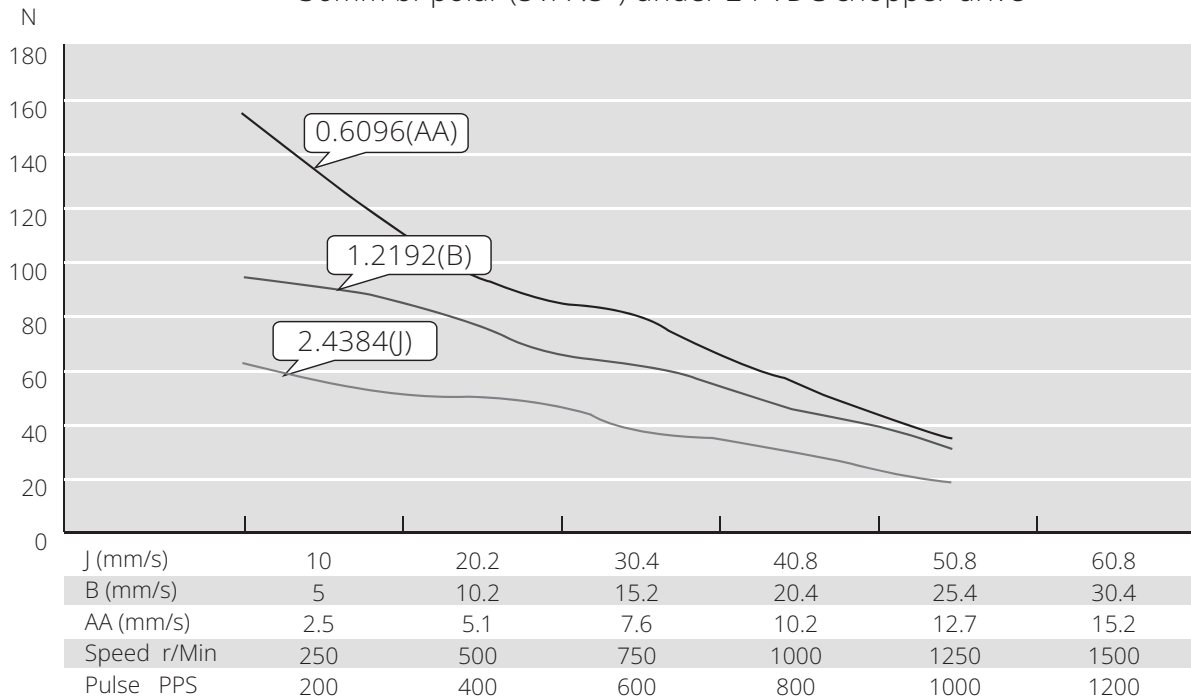
Stroke X	Front extension A	Total extension B	Body length C (Max.)
16	12±0.25	41	31.5
25	21±0.25	59	40.5
38	34±0.25	85	53.5

Note : All drawings are 1st Angle Projection - ISO Compliant (3D models available)

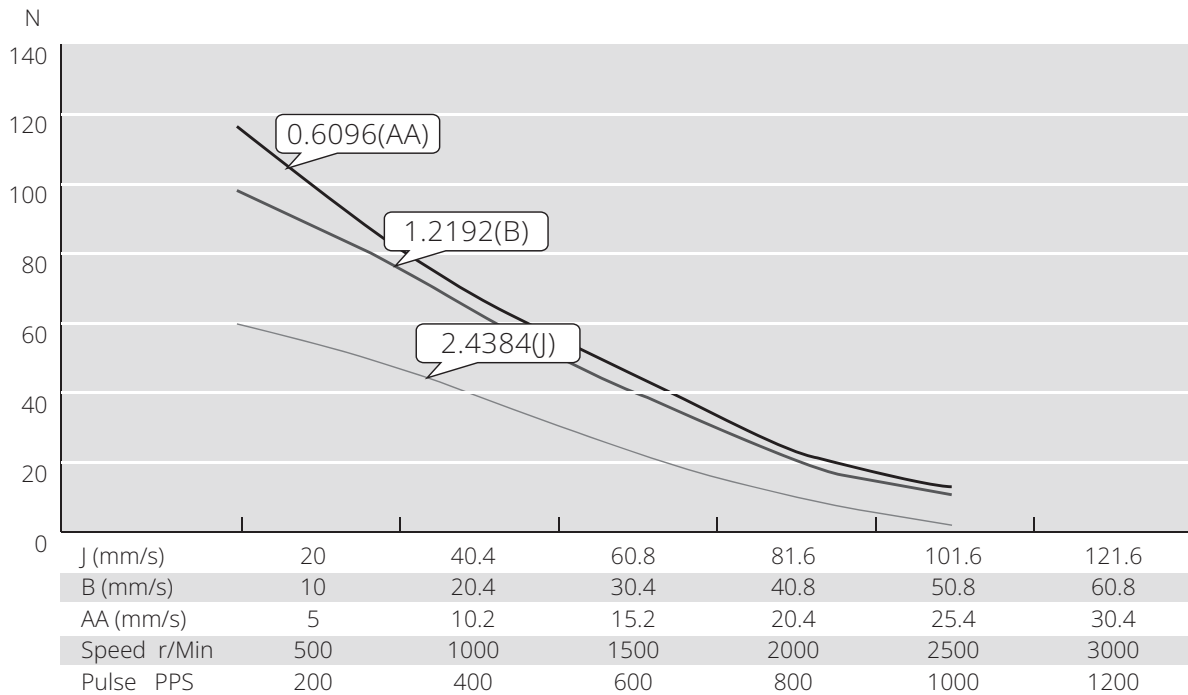
## 36mm Series

### Speed Thrust Curves

36mm bi-polar (5V/7.5°) under 24 VDC chopper drive



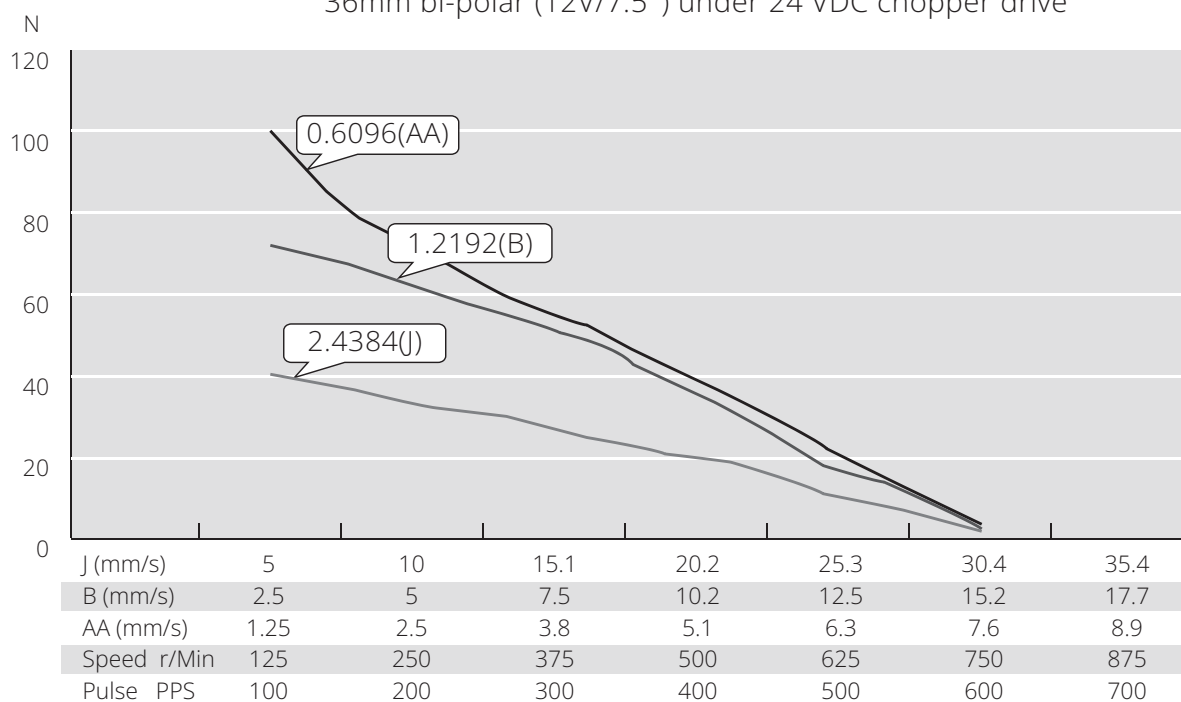
36mm bi-polar (5V/15°) under 24 VDC chopper drive



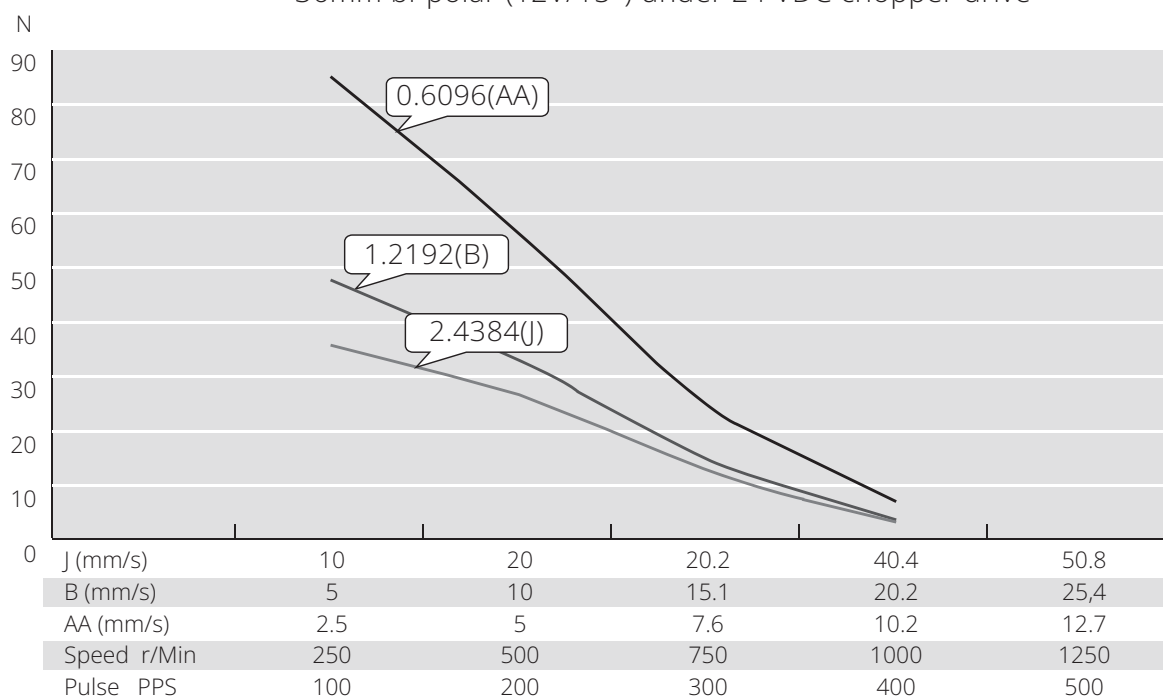


## 36mm Series

36mm bi-polar (12V/7.5°) under 24 VDC chopper drive



36mm bi-polar (12V/15°) under 24 VDC chopper drive



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Precision Motion Specialist

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