

PM Stepper Linear Actuators

DINGS' provide three sizes - 20 mm, 25 mm and 36 mm PM stepper linear actuators. For each size, there are three available form factors Non-Captive, External and Kaptive. We offer step travel between 0.00625 and 0.3333 mm/step, and these actuators can output a maximum linear force of 115N.



External



Non-Captive



Kaptive

Part number construction

A-92

Product overview

A-93

20 mm series

A-94

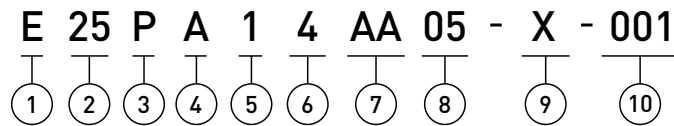
25 mm series

A-98

36 mm series

A-102

Part Number Construction



- | | |
|---|---|
| <p>① Linear Structure
 E = External
 N = Non-captive
 K = Kaptive</p> <p>② Motor Size
 20 mm
 25 mm
 36 mm</p> <p>③ PM Stepper Motor</p> <p>④ Mounting
 A = Flange and wiring box
 B = Flange only
 C = Wiring box only
 D = No flange or wiring box</p> <p>⑤ Step Angle
 1 = 7.5°
 2 = 15°</p> <p>⑥ Wiring Number
 4 = bi-polar (4 wiring)
 6 = uni-polar (6 wiring)</p> | <p>⑦ Lead Code</p> <p>⑧ Winding Code
 05 = 5V
 12 = 12V</p> <p>⑨ Screw Stroke / Length
 Kaptive - stroke distance
 Non-captive - total length of screw
 External - screw extension length from the mounting flange</p> <p>⑩ Customization Sequence Number</p> |
|---|---|

Example

Naming code	E25PA14AA05-X-001
Description	25 mm size External type with mounting flange and wiring box 7.5°step angle 5V winding Screw AA Bi-polar Screw extension X mm Customization sequence is 001



External



Non-Captive



Kaptive

Overview

Motor size (mm)	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

Parameters



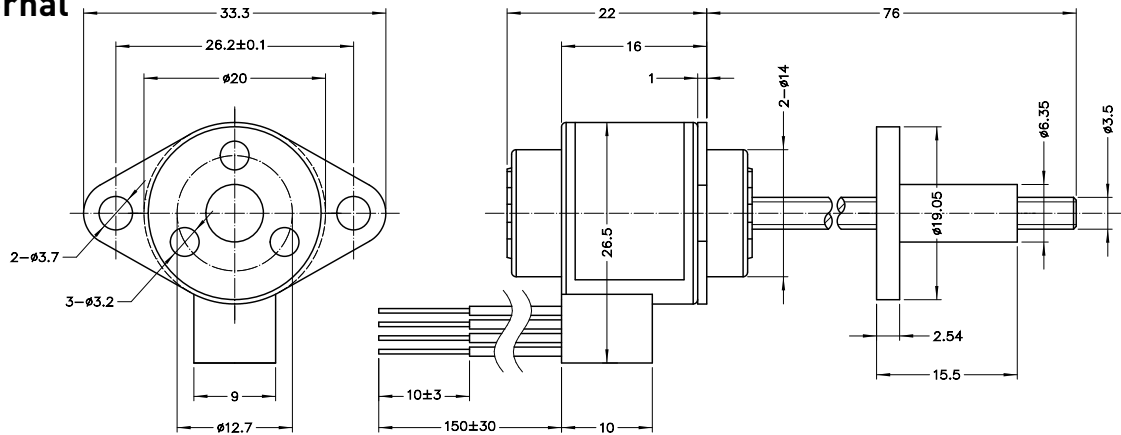
20mm frame				
Polarity	Bi-polar			
Linear structure	Kaptive, Non-captive, External			
Step angle	7.5°		15°	
Winding	5V	12V	5V	12V
Phase Current	370mA	160mA	370mA	160mA
Phase resistance	13.5Ω	74.5Ω	13.5Ω	76Ω
Phase inductance	6.5mH	38.5mH	4mH	25mH
Power consumption	3.4W			
Rotor inertia	1.05gcm ²			
Insulation class	B			
Insulation resistance	100MΩ			
Mass	35g			

Travel per Step and Screw Lead Code

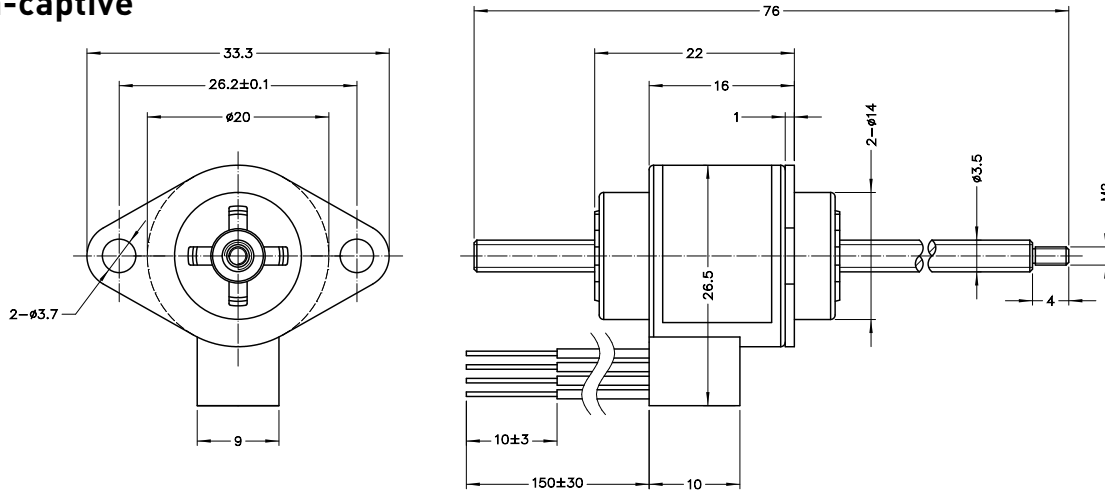
Step angle	Screw lead		Travel per step		Screw lead code
	mm	inch	mm	inch	
7.5°	0.6096	0.024	0.0127	0.0005	AA
	1.2192	0.048	0.0254	0.0010	B
	2.4384	0.096	0.0508	0.0020	J
15°	0.6096	0.024	0.0254	0.0010	AA
	1.2192	0.048	0.0508	0.0020	B
	2.4384	0.096	0.1016	0.0040	J

Dimensional Drawings

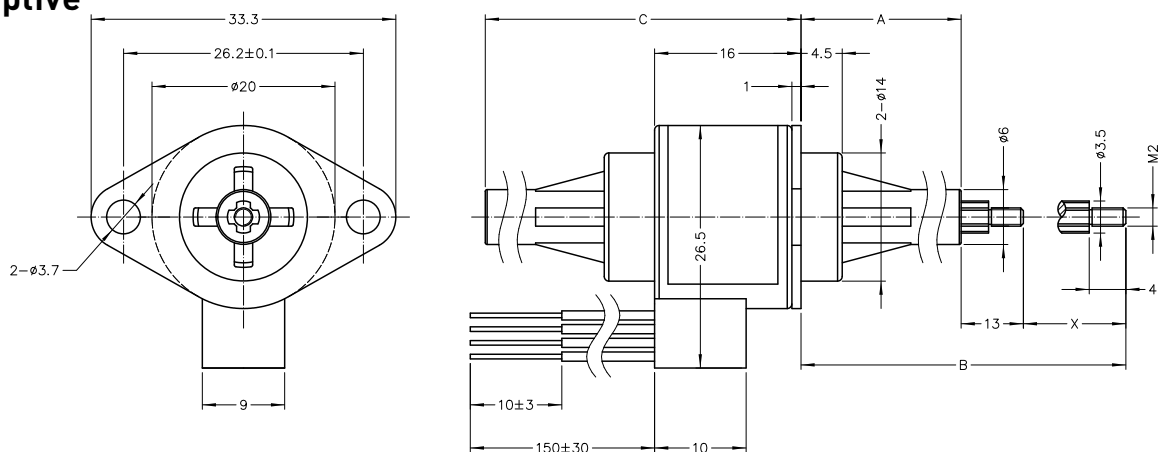
1. External



2. Non-captive



3. Kaptive

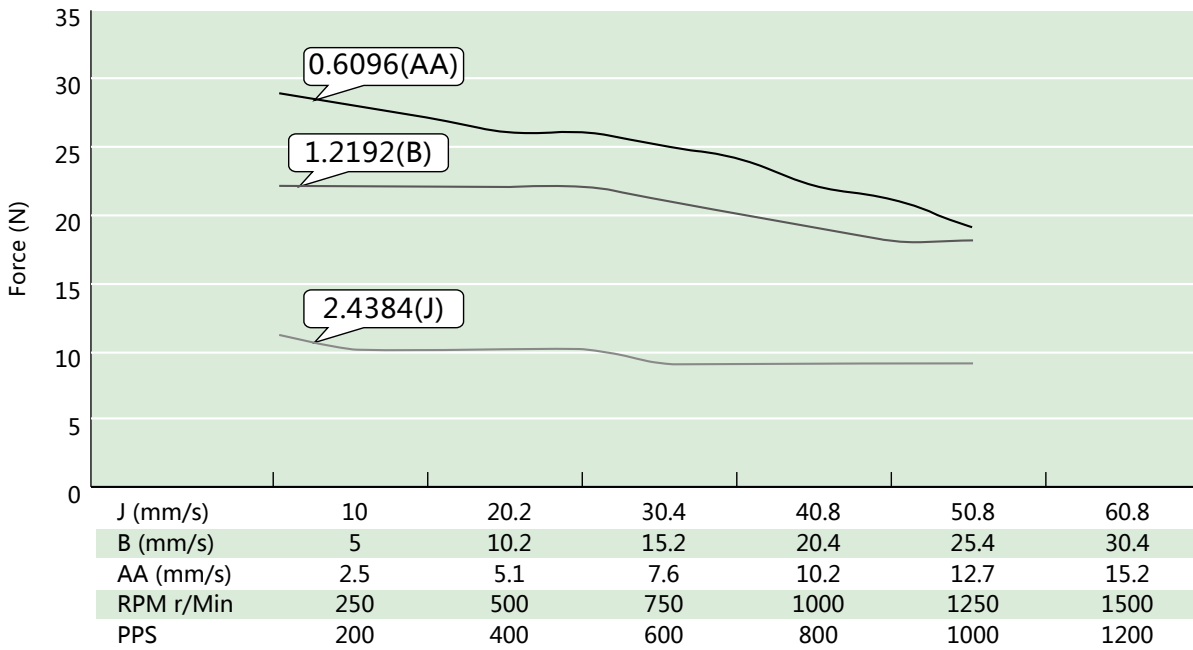


Stroke X(mm)	Front extension A	Total extension B	Body length C(MAX)
14	13.5±0.25	40.5±0.25	30.5
18	17.5±0.25	48.5±0.25	34.5
25	24.5±0.25	62.5±0.25	41.5
31	30.5±0.25	74.5±0.25	47.5

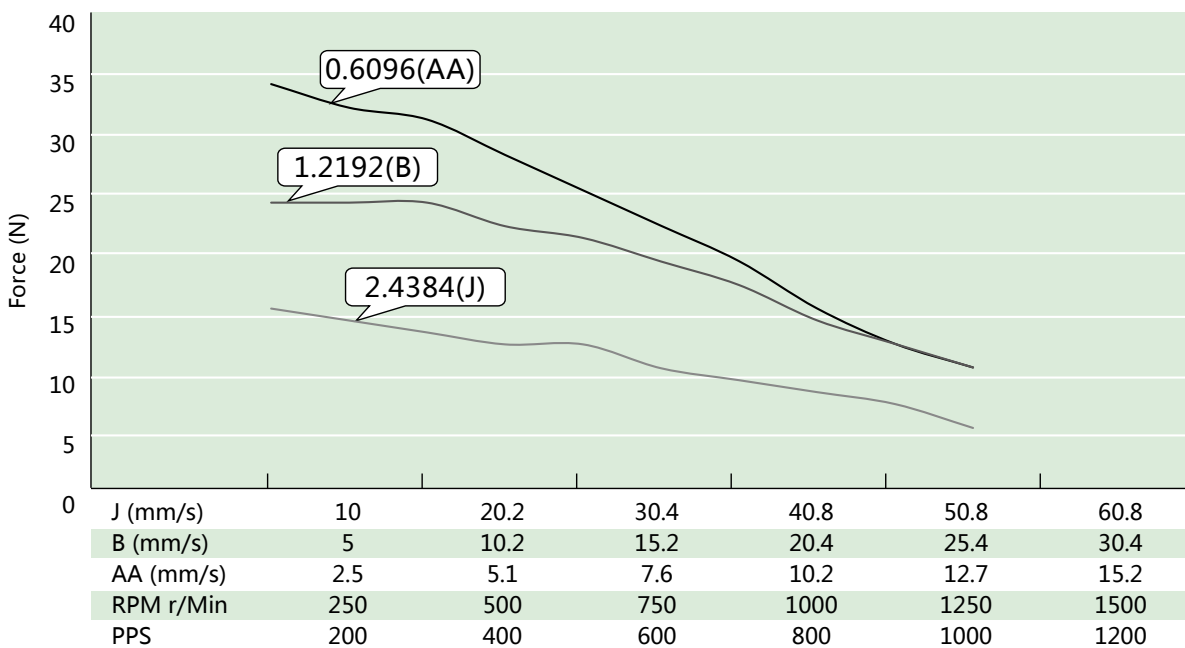
20mm Series

Linear Performance Curves

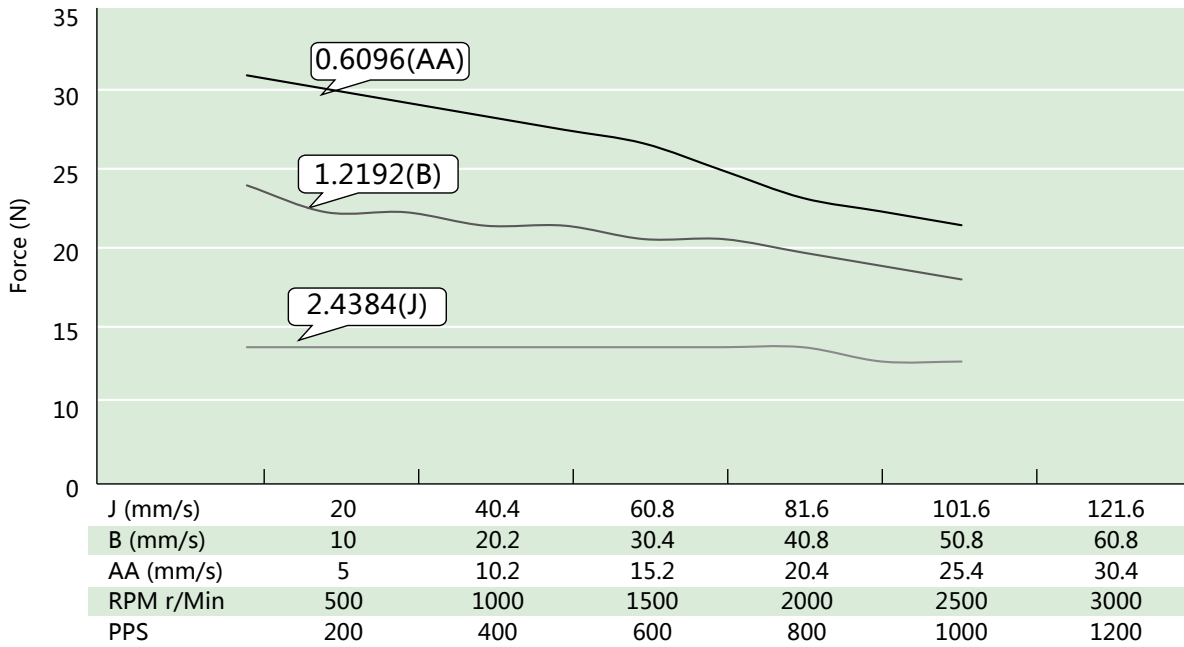
20mm bi-polar, 5V/7.5° under 24 VDC chopper drive



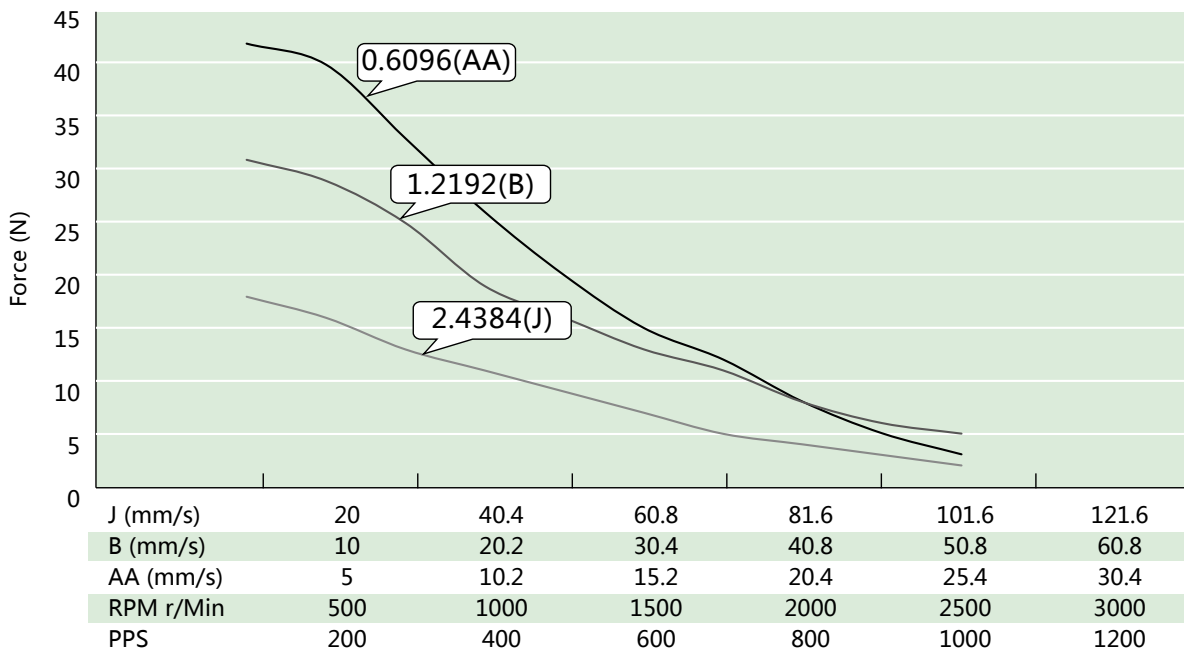
20mm bi-polar, 12V/7.5° under 24 VDC chopper drive



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



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



25mm Series

■ Parameters



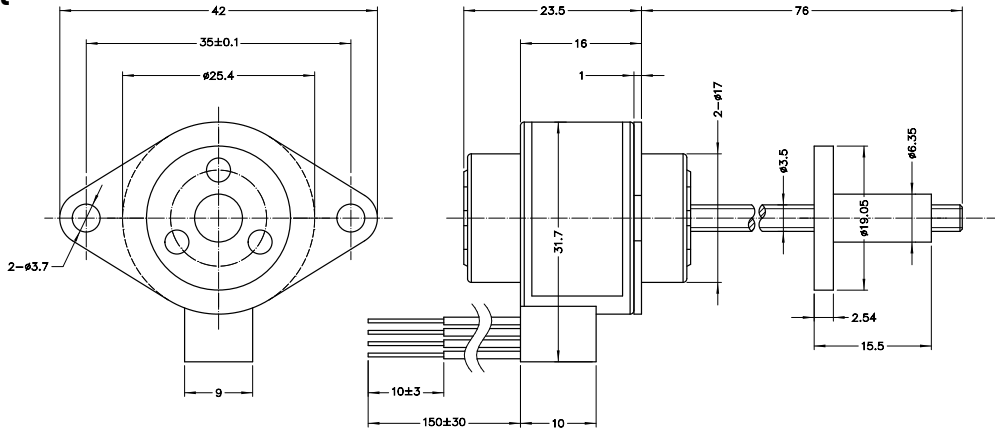
25mm frame				
Polarity	Bi-polar			
Linear structure	Kaptive, Non-captive, External			
Step angle	7.5°		15°	
Winding	5V	12V	5V	12V
Phase Current	370mA	160mA	370mA	160mA
Phase resistance	13.5Ω	70Ω	13.5Ω	70Ω
Phase inductance	12.5mH	65mH	9.5mH	47mH
Power consumption	3.85W			
Rotor inertia	1.08gcm ²			
Insulation class	B			
Insulation resistance	100MΩ			
Mass	50g			

■ Travel per Step and Screw Lead Code

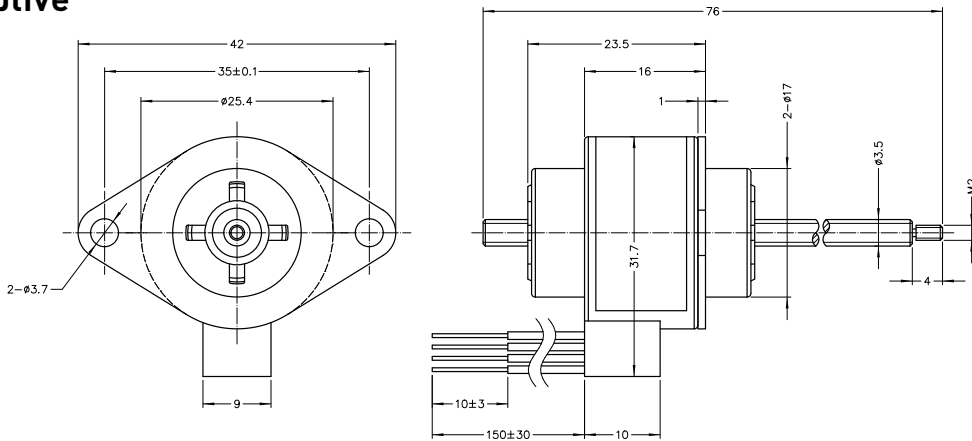
Step angle	Screw lead		Travel per step		Screw lead code
	mm	inch	mm	inch	
7.5°	0.6096	0.024	0.0127	0.0005	AA
	1.2192	0.048	0.0254	0.0010	B
	2.4384	0.096	0.0508	0.0020	J
15°	0.6096	0.024	0.0254	0.0010	AA
	1.2192	0.048	0.0508	0.0020	B
	2.4384	0.096	0.1016	0.0040	J

Dimensional Drawings

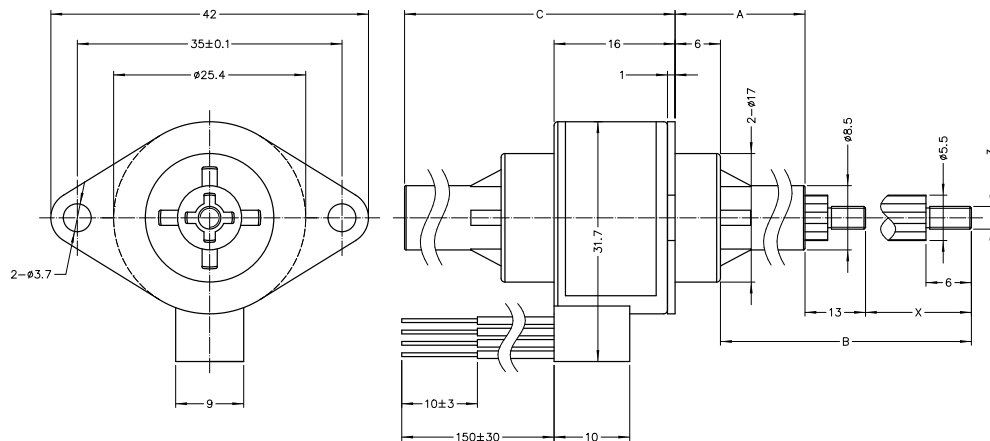
1. External



2. Non-captive



3. Kaptive

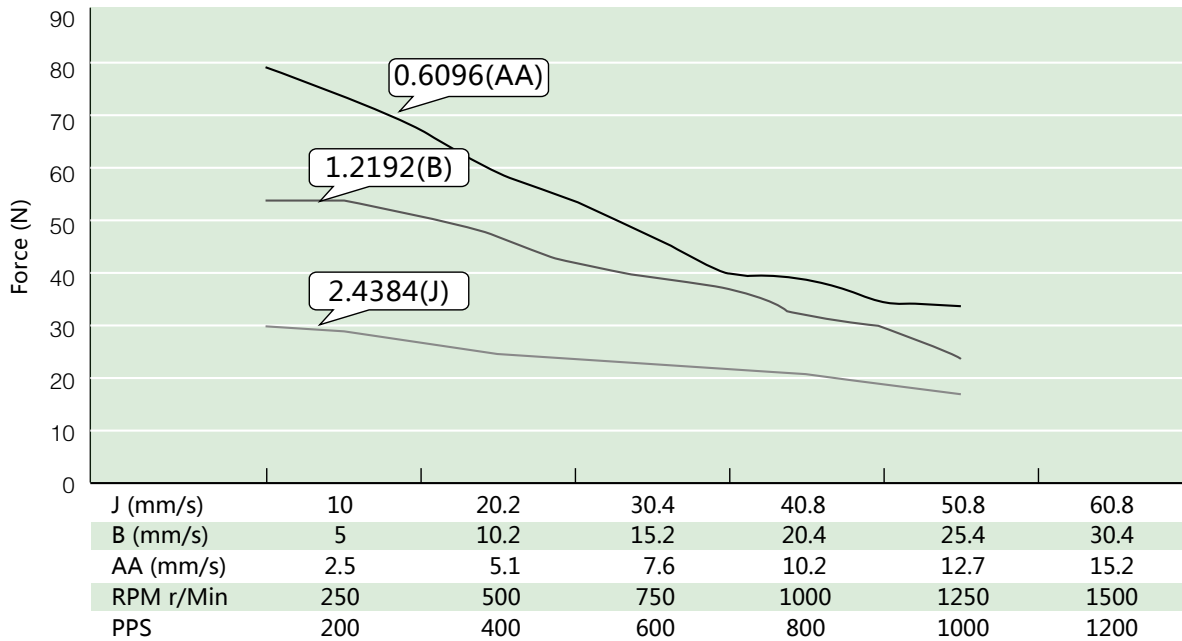


Stroke X(mm)	Front extension A	Total extension B	Body length C(MAX)
13	10.5±0.25	36.5±0.25	27.5
18	15.5±0.25	46.5±0.25	32.5
25	22.5±0.25	60.5±0.25	39.5
31	28.5±0.25	72.5±0.25	45.5

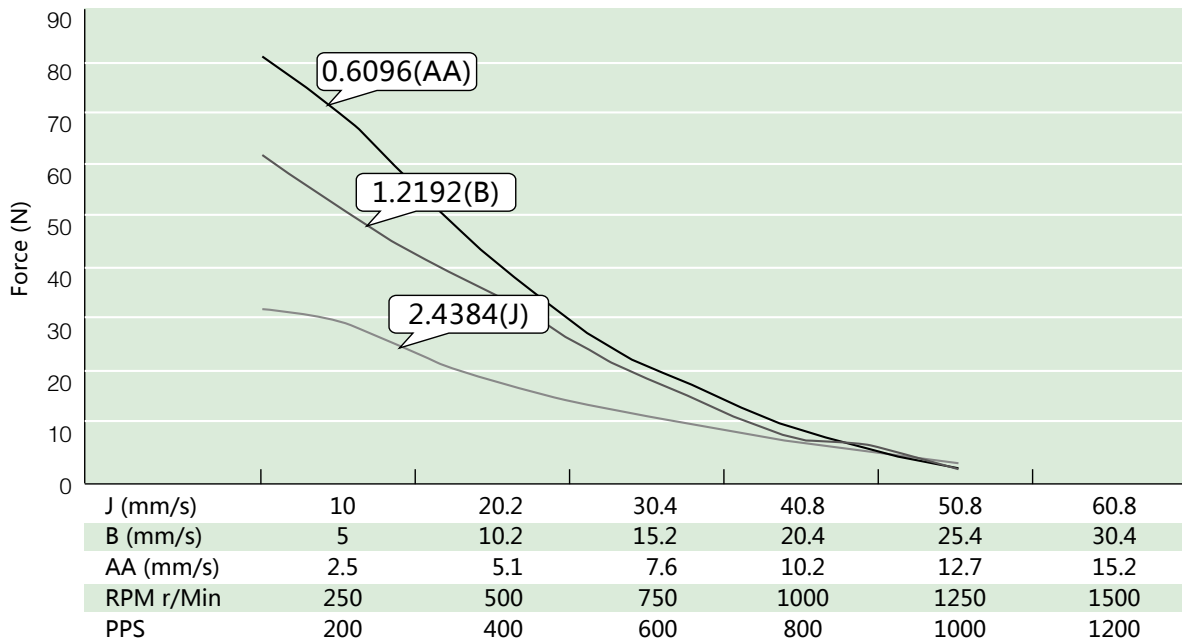
25mm Series

Linear Performance Curves

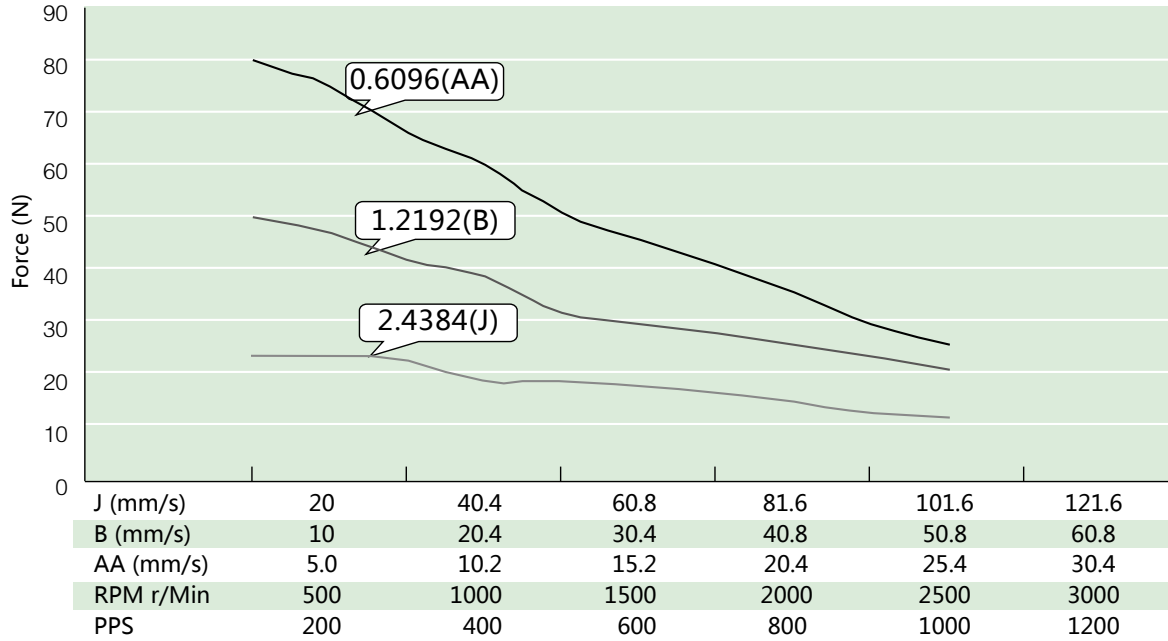
25mm bi-polar, 5V/7.5° under 24 VDC chopper drive



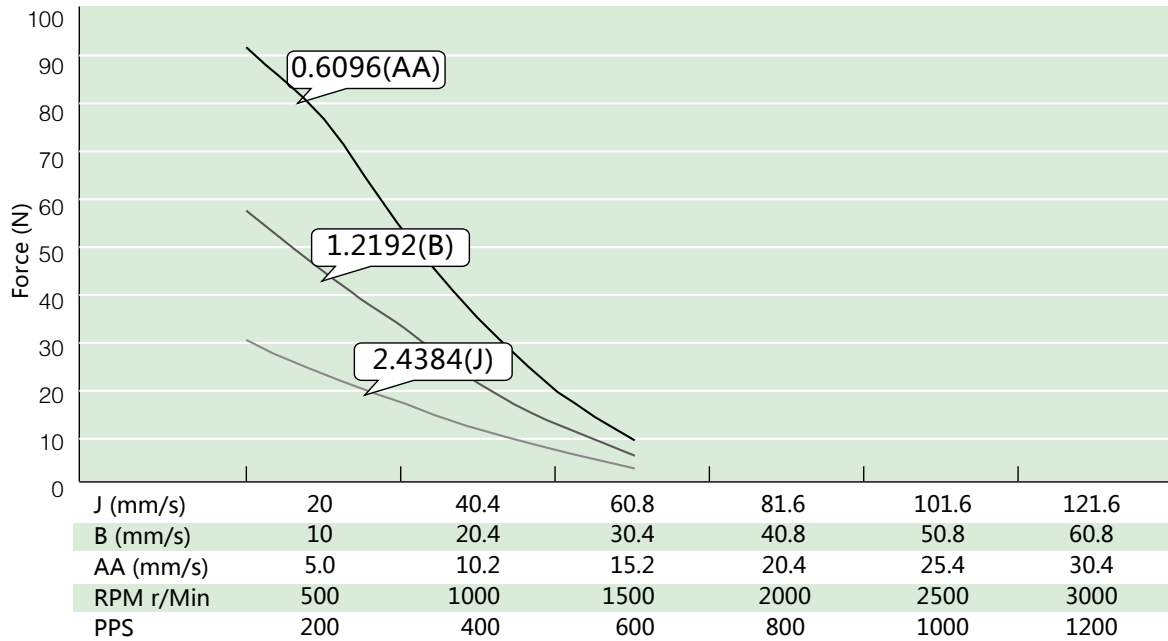
25mm bi-polar, 12V/7.5° under 24 VDC chopper drive



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



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



36mm Series

Parameters



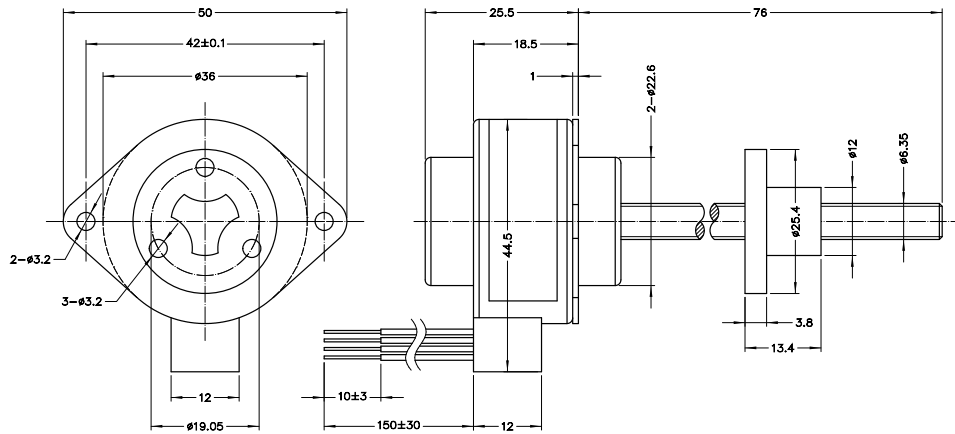
36mm frame				
Polarity	Bi-polar			
Linear structure	Kaptive, Non-captive, External			
Step angle	7.5°		15°	
Winding	5V	12V	5V	12V
Phase Current	560mA	230mA	560mA	230mA
Phase resistance	9Ω	52Ω	9Ω	52Ω
Phase inductance	11.5mH	72mH	8mH	56mH
Power consumption	5.6W			
Rotor inertia	8.5gcm ²			
Insulation class	B			
Insulation resistance	100MΩ			
Mass	120g			

Travel per Step and Screw Lead Code

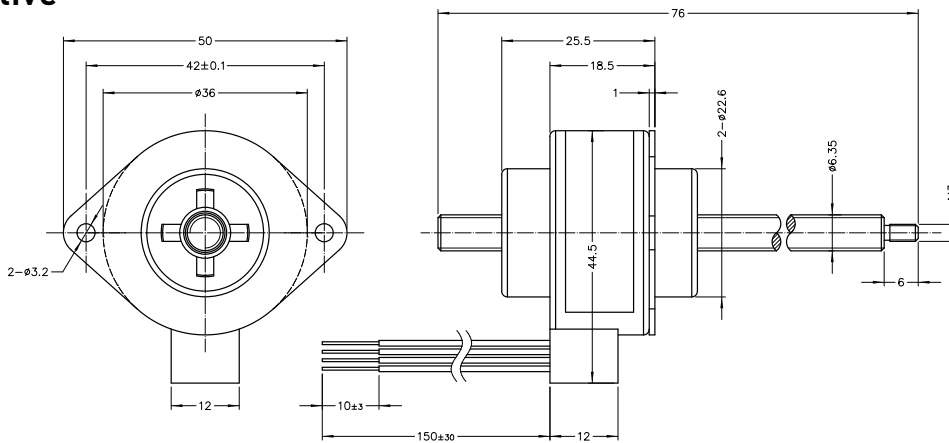
Step angle	Screw lead		Travel per step		Screw lead code
	mm	inch	mm	inch	
7.5°	0.6096	0.024	0.0127	0.0005	AA
	1.2192	0.048	0.0254	0.0010	B
	2.4384	0.096	0.0508	0.0020	J
15°	0.6096	0.024	0.0254	0.0010	AA
	1.2192	0.048	0.0508	0.0020	B
	2.4384	0.096	0.1016	0.0040	J

Dimensional Drawings

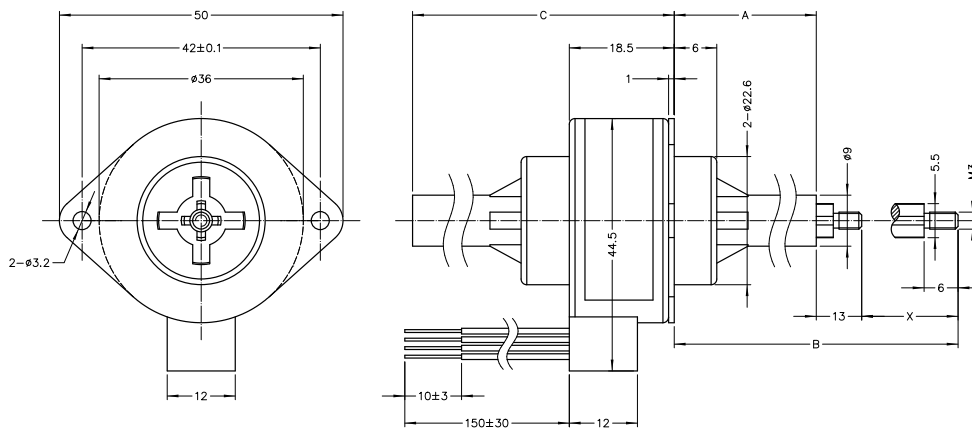
1. External



2. Non-captive



3. Kaptive

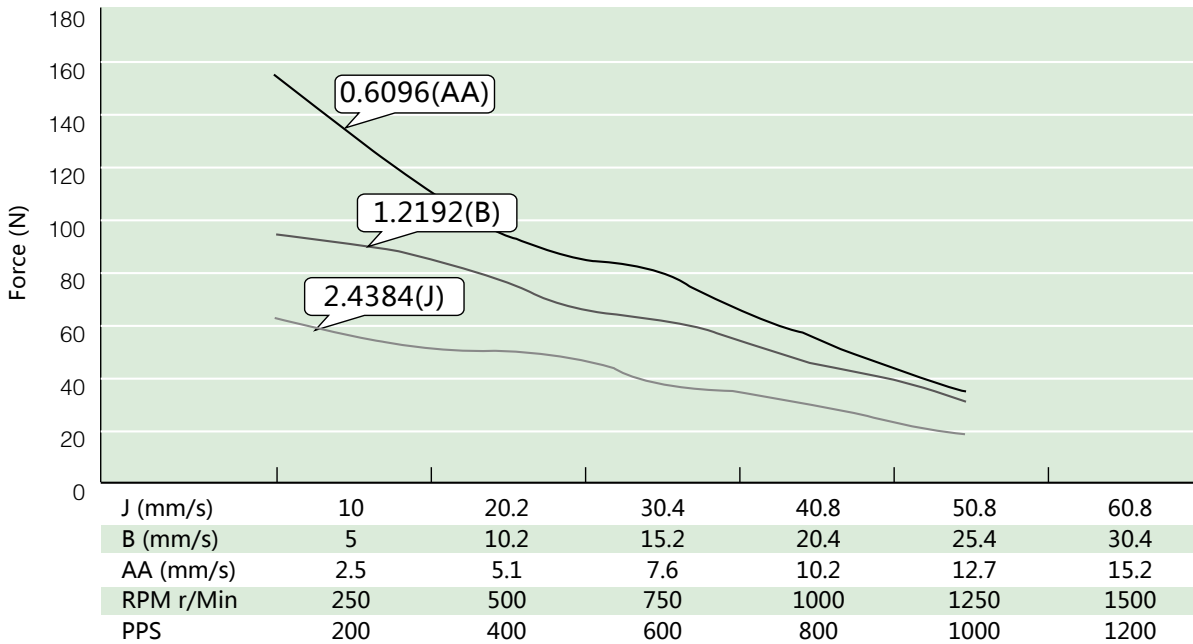


Stroke X(mm)	Front extension A	Total extension B	Body length C(MAX)
16	12±0.25	41±0.25	31.5
25	21±0.25	59±0.25	40.5
38	34±0.25	85±0.25	53.5

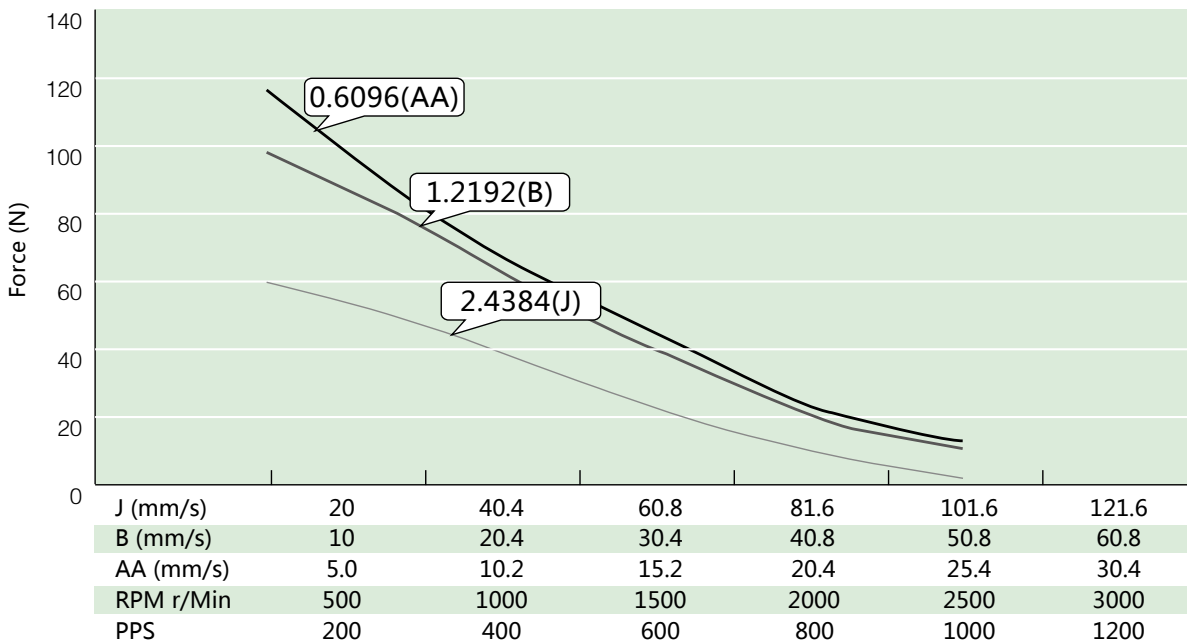
36mm Series

Linear Performance Curves

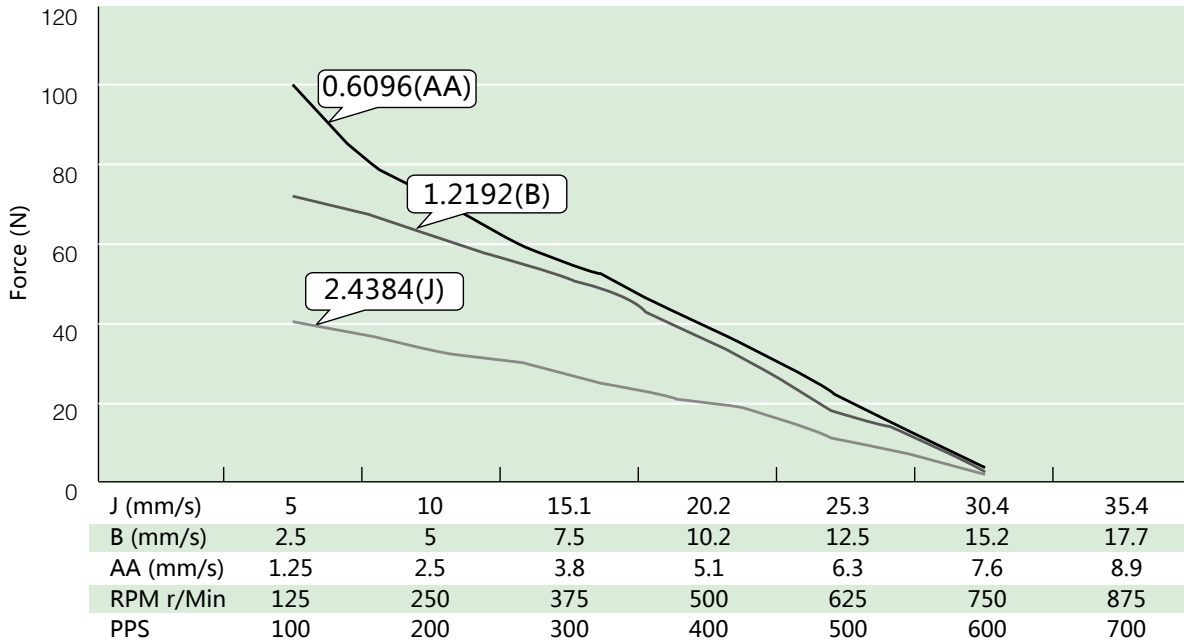
36mm bi-polar, 5V/7.5° under 24 VDC chopper drive



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



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



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

