

Hybrid Stepper Motor Ball Screw Linear Actuators

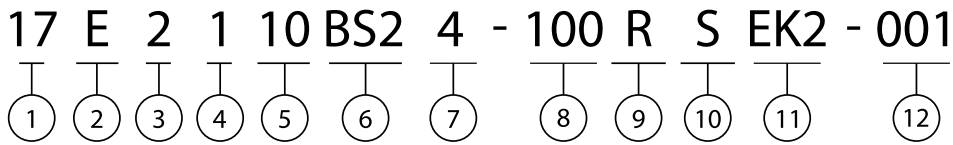
Ball Screw Linear Actuators are available in External Linear versions, from Nema 8 to Nema 23. Various step resolutions are available, from 0.005mm/step to 0.1mm/step.

Maximum thrust can reach over 1600N.

Encoder options are available for all versions.



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① Motor Size

CODE	8	11	14	17	23
MOTOR SIZE (mm)	20	28	35	42	57

② Motor Type

E=External Linear

③ Step Angle

2= 2 Phase with 1.8°

4= 2 Phase with 0.9°

④ Motor Length/Stack

1=single stack

2=double stack

⑤ Rated Current/Phase

10=1.0A;

⑥ Ball Screw Code

BS2=2mm

⑦ Number of Lead Wires

4= 4 flying lead wire

6= 6 flying lead wire

⑧ Ball Screw Length

100=100mm

⑨ Thread Direction

R= right

L= left

⑩ End Machining

N=None

S=Smooth

C=Customer design

⑪ Optional Accessories

EKX=Encoder(xx=encoder type)

B=brake

X=rear shaft

R=encoder ready

C= customize

N=none

⑫ Customer Sequence Number

*different grade and ball screw optional

Example

Part number 17E2110BS24-100RSEK2-001

Description Size 17 serial hybrid ball screw linear stepper actuator
External
2 phase with 1.8° step angle
Single stack
1.0A
Ball screw lead 2mm
4 flying lead wire
Screw length:100mm
Right thread direction
Smooth screw end
EK2 Encoder

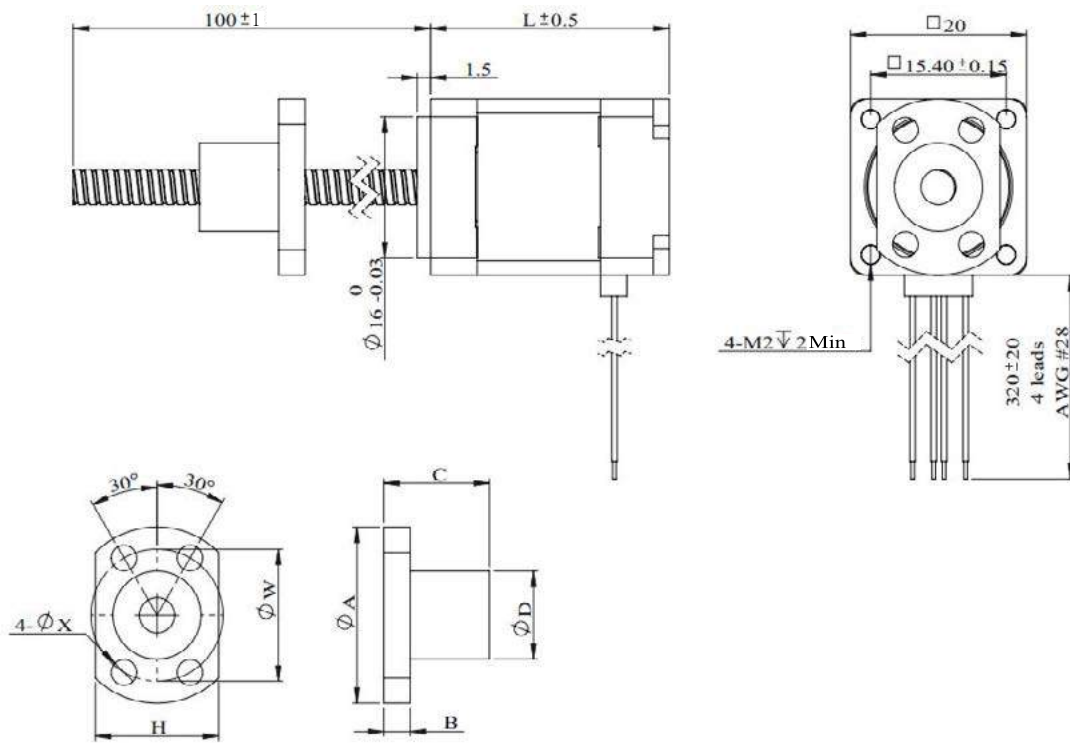
Ball Screw Lead Code Selection

Motor size	20	28		35		42		57	
Diameter	Φ4	Φ5	Φ6	Φ6	Φ8	Φ6	Φ8	Φ10	Φ12
Lead									
1.0 mm	*		*	*	*	*	*		
2.0 mm	*		*	*	*	*	*	*	*
2.5 mm					*		*		
4.0 mm		*						*	
5.0 mm					*		*	*	
6.0 mm			*	*		*			
8.0 mm					*		*		
10.0 mm			*	*	*	*	*	*	*
12.0 mm					*		*		
15.0 mm								*	
20.0 mm								*	

Electrical Parameter

Model NO.	Rated Voltage(V)	Current (A)	Resistance (Ω)	Inductance (mH)	Lead wire No.	Motor length "L"(mm)
8E2004	3.5	0.4	8.8	2.8	4	20
8E2105	2.55	0.5	5.1	1.5	4	27.2
8E2205	4.4	0.5	8.8	2.7	4	38.1

Dimensional drawings



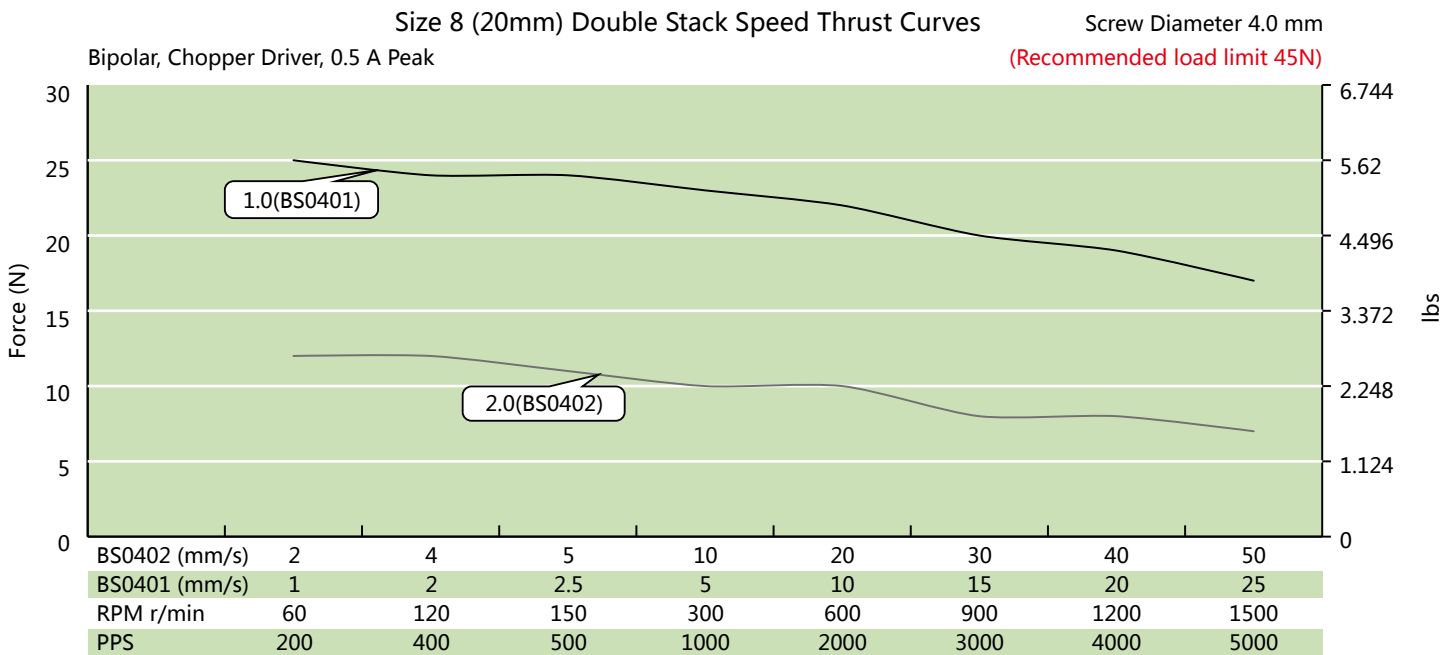
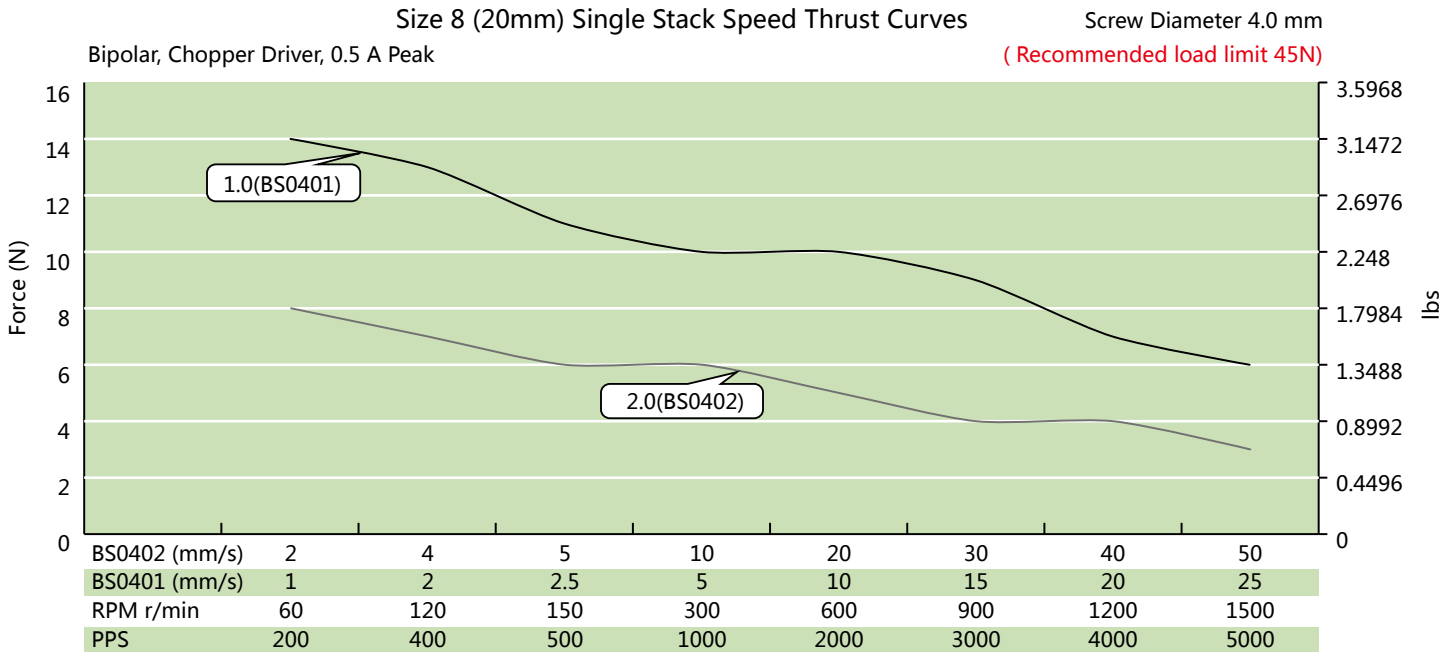
NOTE: All drawings are First Angle Projection – ISO Standard. (3D Models are available).

Size 8 (20 mm) Series

■ Ball Screw Specification

Ball screw type	0401		0402										
Ball size	Φ0.8		Φ0.8										
Number of thread	1		1										
Thread direction	Right												
Shaft root dia.	Φ3.3		Φ3.3										
Number of circuit	3.7×1		2.7×1										
Shaft, nut material	SCM415H												
Surface hardness	HRC58-62												
Anti-rust treatment	Anti-rust oil												
Nut size	A	B	C	D	H	W	X	Grade	Position accuracy	Total run out	Axial play	Dynamic load(N)	Static load(N)
0401	23	4	17	11	15	17	3.4	C7	±0.05	0.12	0.03	560	790
0402	23	4	19	11	15	17	3.4	C7	±0.05	0.12	0.03	420	570

Size 8 (20mm) Performance Curves



TEST CONDITION:

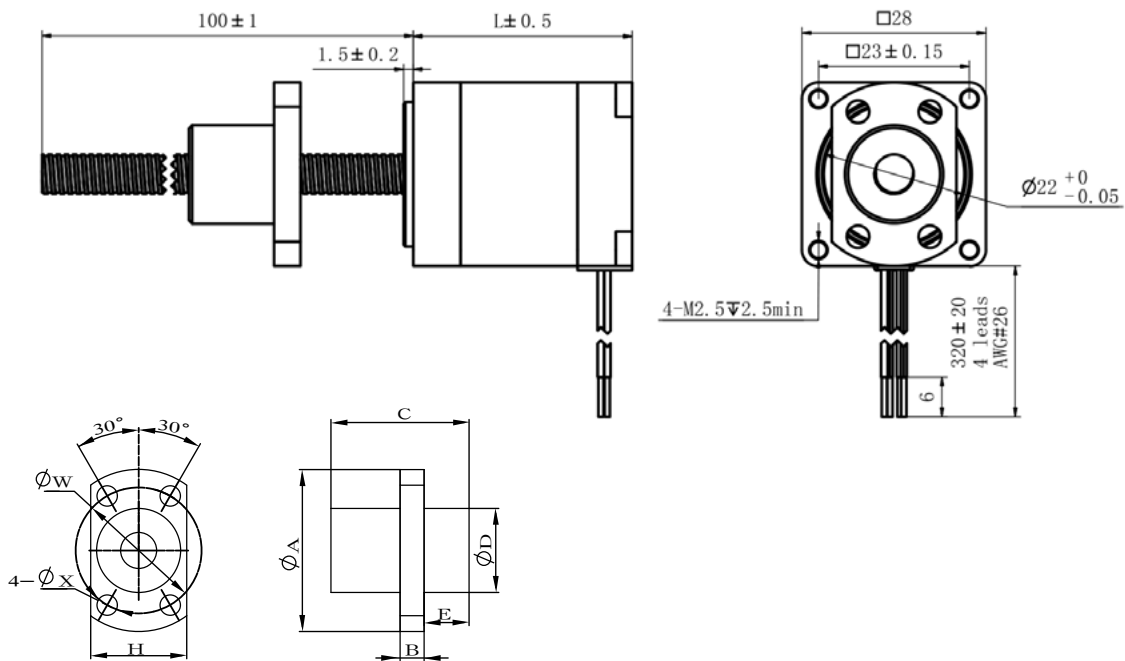
Testing Voltage: 24Vdc, Driver Model: DS-2422-001 bipolar, chopper driver at rated current. Motor's thrust will be changed with different voltage and driver. 50% thrust margin is recommended.

Size 11 (28 mm) Series

Electrical Parameter

Model NO.	Rated Voltage(V)	Current (A)	Resistance (Ω)	Inductance (mH)	Lead wire No.	Motor length "L"(mm)
11E2110	2.1	1.00	2.1	1.5	4	33.5
11E2209	3.9	0.95	4.1	4.0	4	45

Dimensional drawings

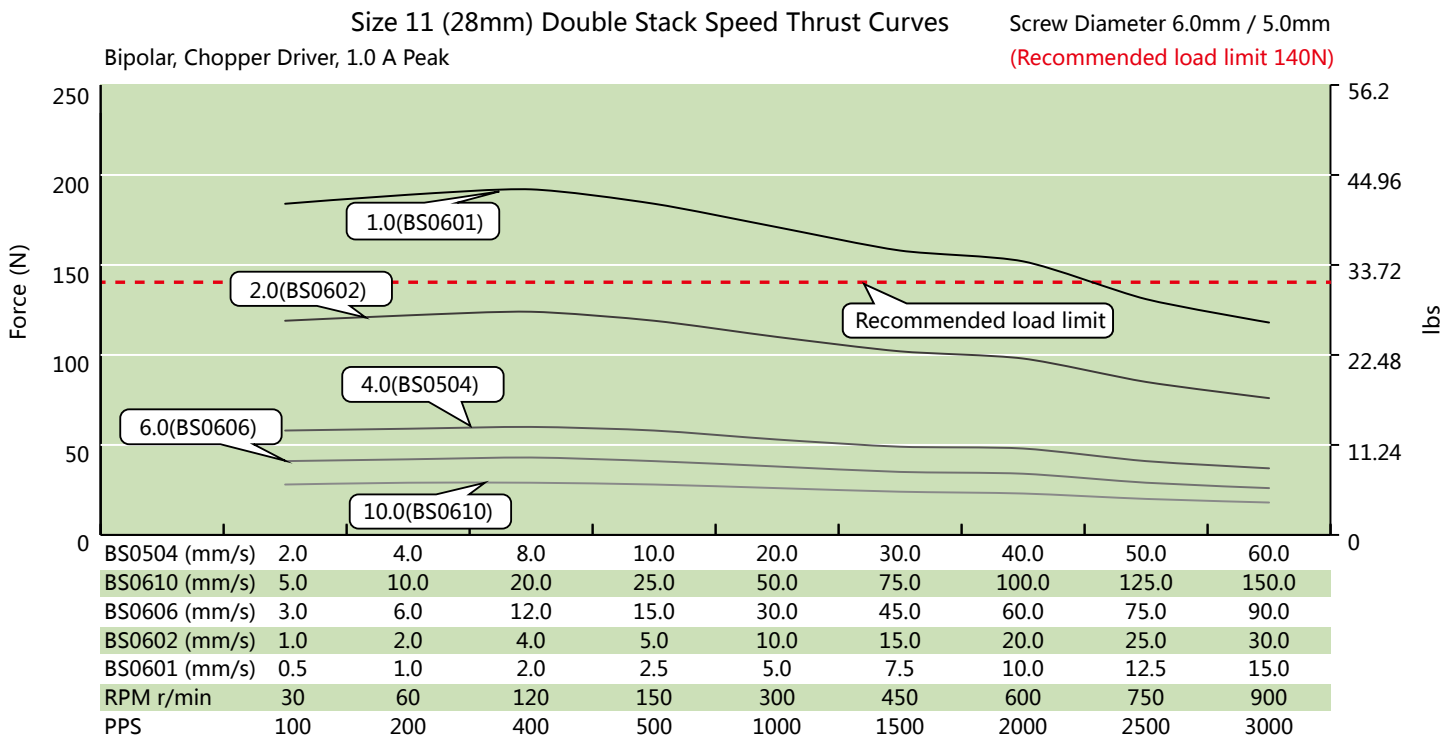
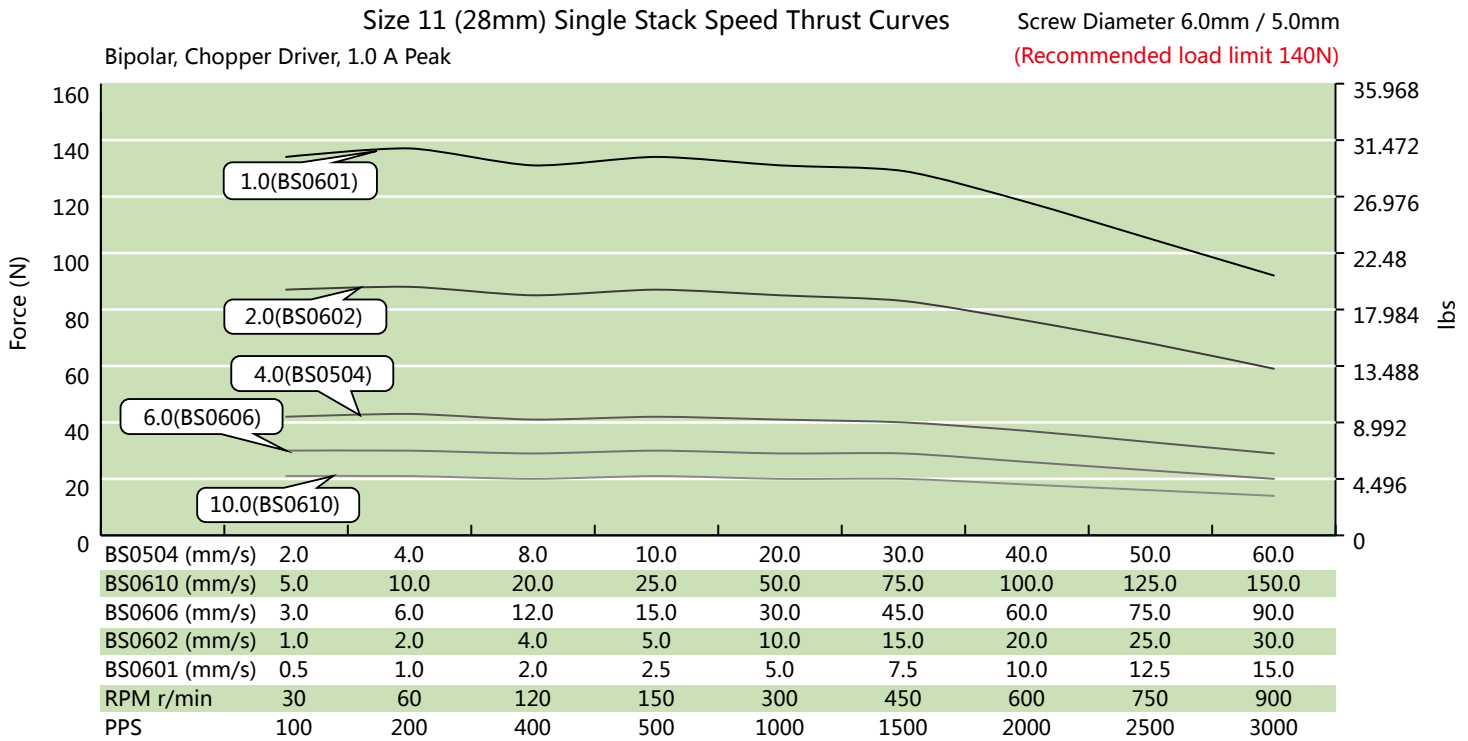


Ball Screw Specification

Ball screw type	0601	0602	0606	0610	0504								
Ball size	Φ0.8	Φ0.8	Φ0.8	Φ1.2	Φ0.8								
Number of thread	1	1	2	2	1								
Thread direction	Right												
Shaft root dia.	Φ5.3	Φ5.1	Φ5.2	Φ5.0	Φ4.3								
Number of circuit	3.7×1	2.7×1	1.6×2	1.2×2	2.7×1								
Shaft, nut material	SCM415H												
Surface hardness	HRC58-62												
Anti-rust treatment	Anti-rust oil												
Grade	C7												
Nut size	A	B	C	D	H	W	X	E	Position accuracy	Total run out	Axial play	Dynamic load(N)	Static load(N)
0601	26	4	17	13	16	20	3.4		±0.05	0.12	0.03	680	1200
0602	28	4	17	15	19	22	3.4		±0.05	0.12	0.03	750	1450
0606	27	4	17	14	16	21	3.4	5	±0.05	0.12	0.03	870	1600
0610	27	4	23	14	16	21	3.4	7.5	±0.05	0.12	0.02	950	1650
0504	24	4	22	12	16	18	3.4		±0.05	0.12	0.02	470	720

Size 11 (28 mm) Series

Size 11 (28mm) Performance Curves



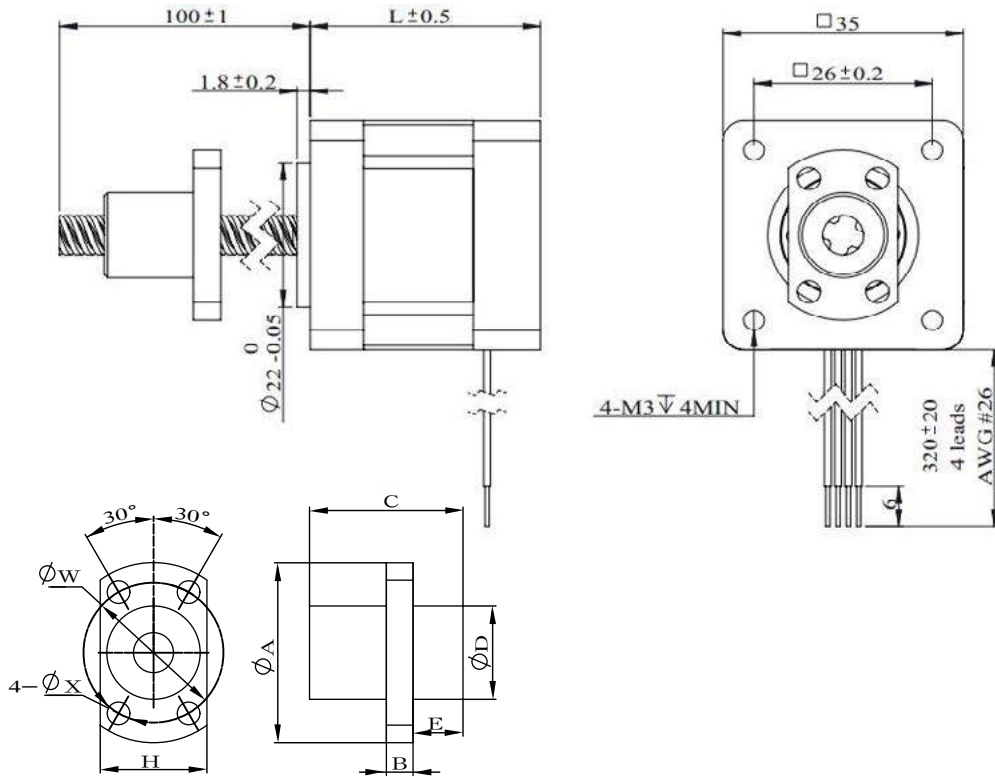
TEST CONDITION:

Testing Voltage: 24Vdc, Driver Model: DS-2422-001 bipolar, chopper driver at rated current. Motor's thrust will be changed with different voltage and driver. 50% thrust margin is recommended.

Electrical Parameter

Model NO.	Rated Voltage(V)	Current (A)	Resistance (Ω)	Inductance (mH)	Lead wire No.	Motor length "L"(mm)
14E2110	3.5	1.0	3.5	3.6	4	33.6
14E2115	2.7	1.5	1.8	1.9	4	33.6
14E2210	6.0	1.0	6.0	7.2	4	45.6
14E2215	4.0	1.5	2.7	3.2	4	45.6

Dimensional drawings



NOTE: All drawings are First Angle Projection – ISO Standard. (3D Models are available).

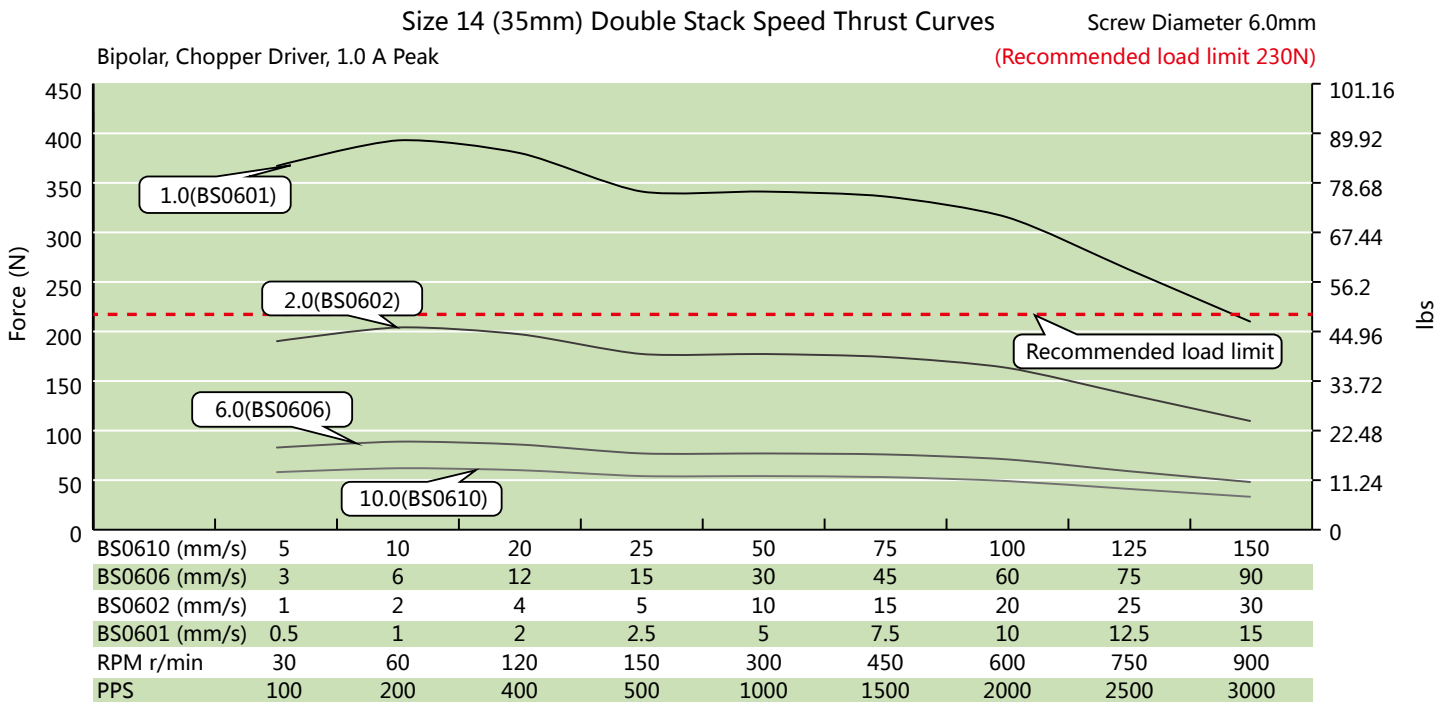
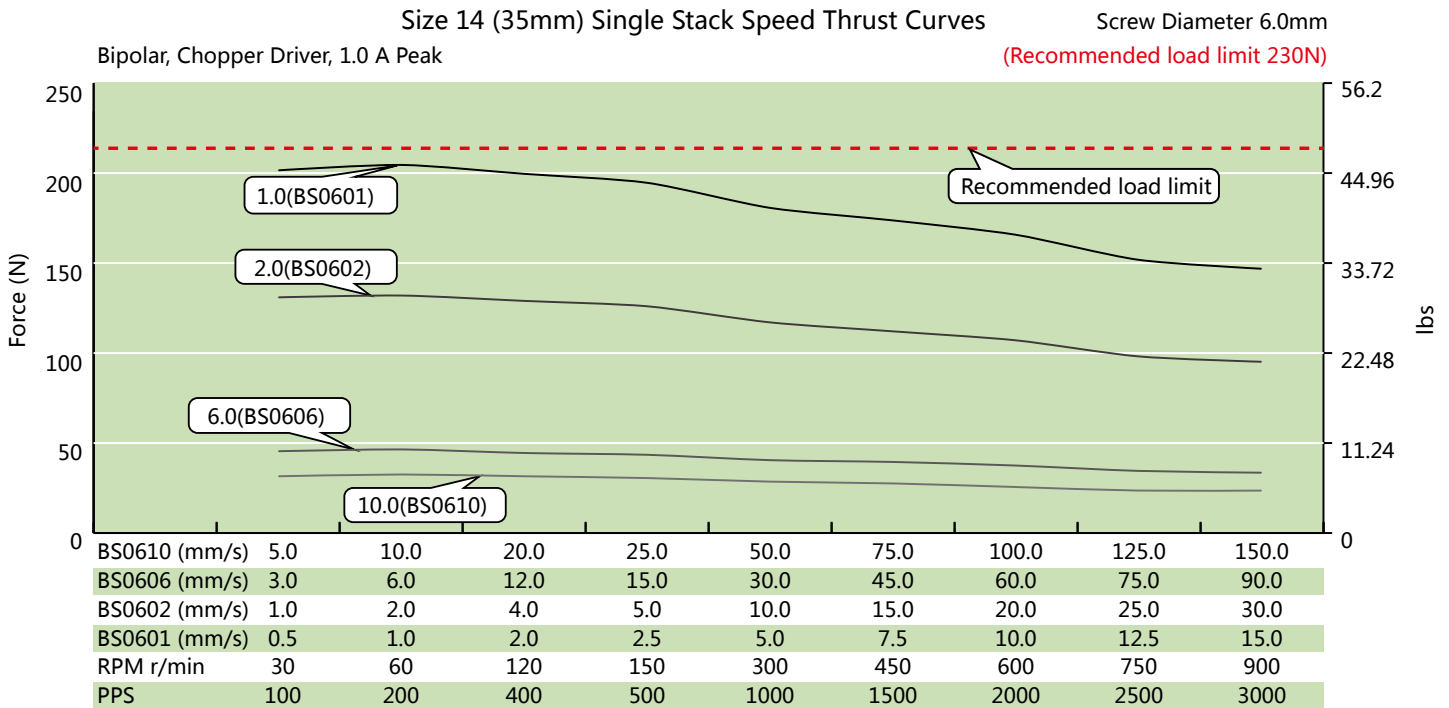
Size 14 (35 mm) Series

Ball Screw Specification

Ball screw type	0601	0602	0606	0610	0801	0802	0802.5	0805	0808	0810	0812
Ball size	Φ0.8	Φ0.8	Φ0.8	Φ1.2	Φ0.8	Φ1.5875	Φ1.5875	Φ1.5875	Φ1.5875	Φ1.5875	Φ1.5875
Number of thread	1	1	2	2	1	1	1	1	2	2	2
Thread direction	Right										
Shaft root dia.	Φ5.3	Φ5.1	Φ5.2	Φ5.0	Φ7.3	Φ6.6	Φ6.3	Φ6.6	Φ6.7	Φ6.7	Φ6.7
Number of circuit	3.7×1	2.7×1	1.6×2	1.2×2	3.7×1	3.7×1	2.7×1	2.7×1	1.6×2	1.6×2	1.6×2
Shaft, nut material	SCM415H										
Surface hardness	HRC58~62										
Anti-rust treatment	Anti-rust oil										
Grade	C7										

Nut size	A	B	C	D	H	W	X	E	Position accuracy	Total run out	Axial play	Dynamic load(N)	Static load(N)
0601	26	4	17	13	16	20	3.4		±0.05	0.12	0.03	680	1200
0602	28	4	17	15	19	22	3.4		±0.05	0.12	0.03	750	1450
0606	27	4	17	14	16	21	3.4	5	±0.05	0.12	0.03	870	1600
0610	27	4	23	14	16	21	3.4	7.5	±0.05	0.12	0.03	950	1650
0801	29	4	17	16	18	23	3.4		±0.05	0.12	0.03	780	1650
0802	37	5	24	20	22	29	4.5		±0.05	0.12	0.03	2400	4100
0802.5	29	4	16	16	18	23	3.4		±0.05	0.12	0.03	1850	3000
0805	31	4	28	18	20	25	3.4		±0.05	0.12	0.03	1850	3000
0808	31	4	20	18	20	25	3.4	6	±0.05	0.12	0.03	2200	3800
0810	31	4	20	18	20	25	3.4	7	±0.05	0.12	0.03	2200	3800
0812	31	4	24	18	20	25	3.4	6	±0.05	0.12	0.03	2200	3800

Size 14 (35mm) Performance Curves



TEST CONDITION:

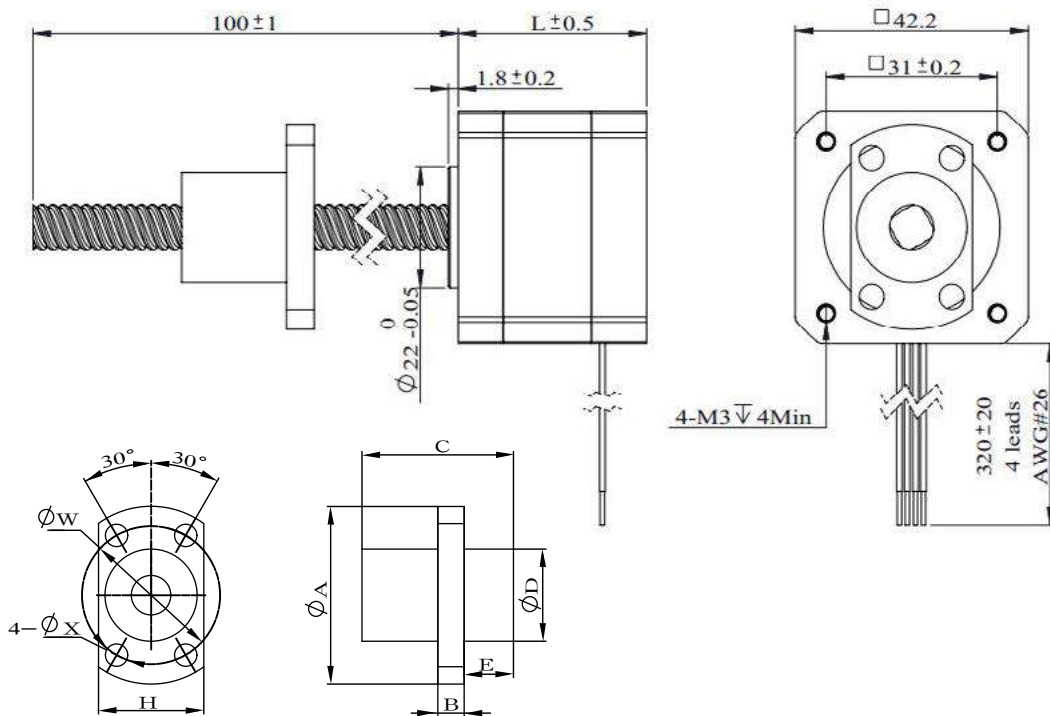
Testing Voltage: 24Vdc, Driver Model: DS-2422-001 bipolar, chopper driver at rated current. Motor's thrust will be changed with different voltage and driver. 50% thrust margin is recommended.

Size 17 (42 mm) Series

Electrical Parameter

Model NO.	Rated Voltage(V)	Current (A)	Resistance (Ω)	Inductance (mH)	Lead wire No.	Motor length "L"(mm)
17E2110	3.8	1.0	3.8	5.0	4	34.1
17E2115	2.78	1.5	1.85	2.2	4	34.1
17E2212	4.56	1.2	3.8	8.0	4	48.1
17E2225	2.5	2.5	1.0	1.8	4	48.1

Dimensional drawings

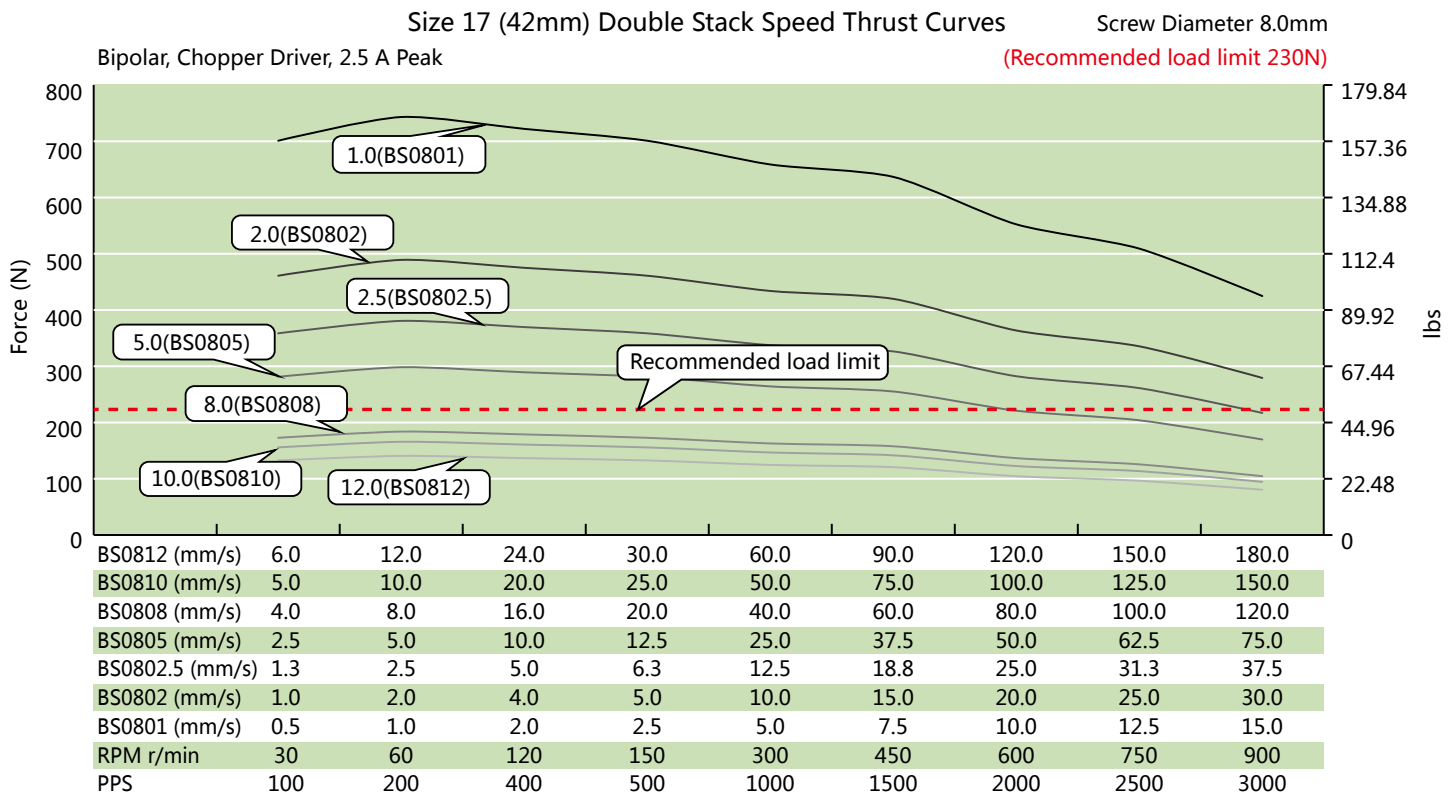
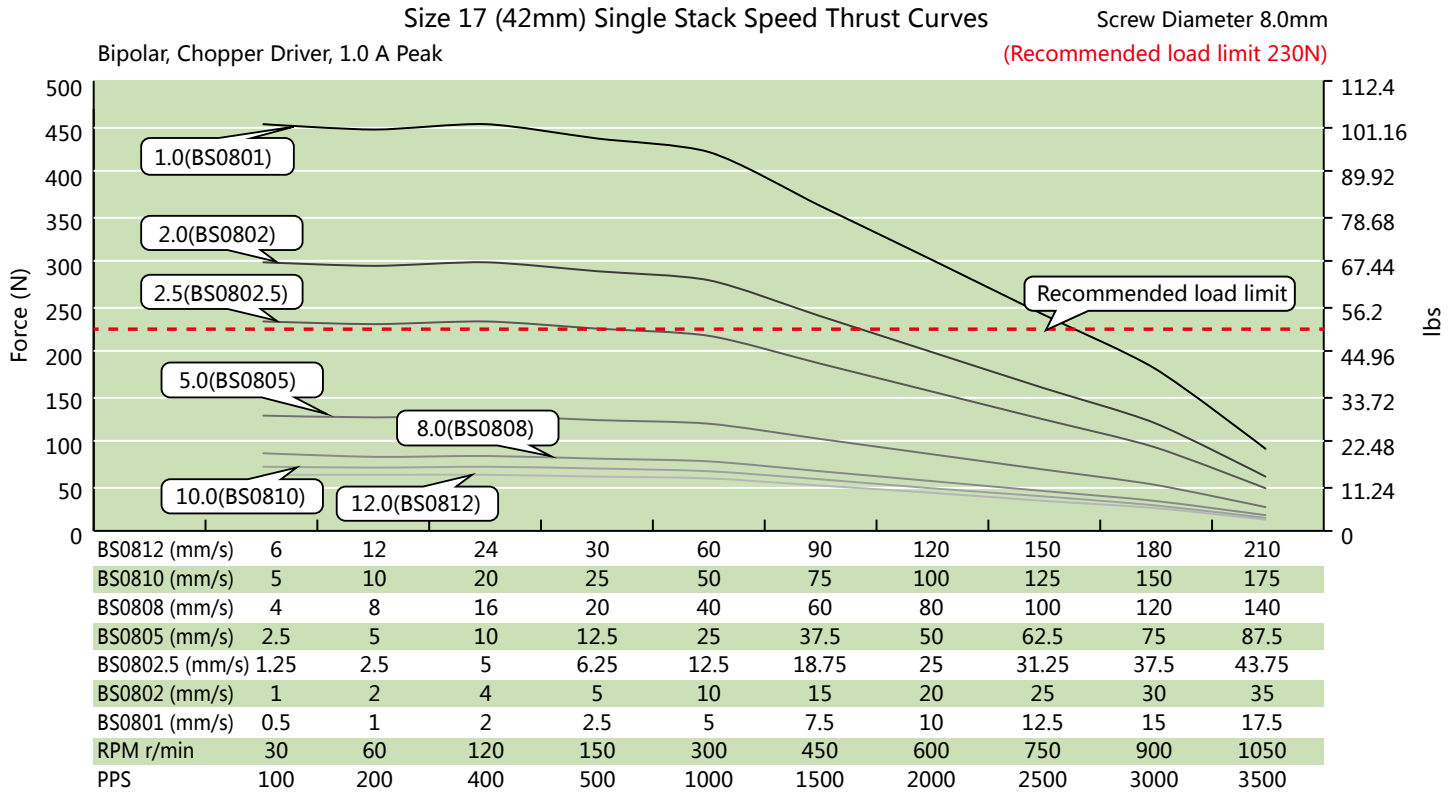


Ball Screw Specification

Ball screw type	0801	0802	0802.5	0805	0808	0810	0812						
Ball size	Φ0.8	Φ1.5875	Φ1.5875	Φ1.5875	Φ1.5875	Φ1.5875	Φ1.5875						
Number of thread	1	1	1	1	2	2	2						
Thread direction	Right												
Shaft root dia.	Φ7.3	Φ6.6	Φ6.3	Φ6.6	Φ6.7	Φ6.7	Φ6.7						
Number of circuit	3.7×1	3.7×1	2.7×1	2.7×1	1.6×2	1.6×2	1.6×2						
Shaft, nut material	SCM415H												
Surface hardness	HRC58~62												
Anti-rust treatment	Anti-rust oil												
Grade	C7												
Nut size	A	B	C	D	H	W	X	E	Position accuracy	Total run out	Axial play	Dynamic load(N)	Static load(N)
0801	29	4	17	16	18	23	3.4		±0.05	0.12	0.03	780	1650
0802	37	5	24	20	22	29	4.5		±0.05	0.12	0.03	2400	4100
0802.5	29	4	16	16	18	23	3.4		±0.05	0.12	0.03	1850	3000
0805	31	4	28	18	20	25	3.4		±0.05	0.12	0.03	1850	3000
0808	31	4	20	18	20	25	3.4	6	±0.05	0.12	0.03	2200	3800
0810	31	4	20	18	20	25	3.4	7	±0.05	0.12	0.03	2200	3800
0812	31	4	24	18	20	25	3.4	6	±0.05	0.12	0.03	2200	3800

Size 17 (42 mm) Series

Size 17 (42mm) Performance Curves



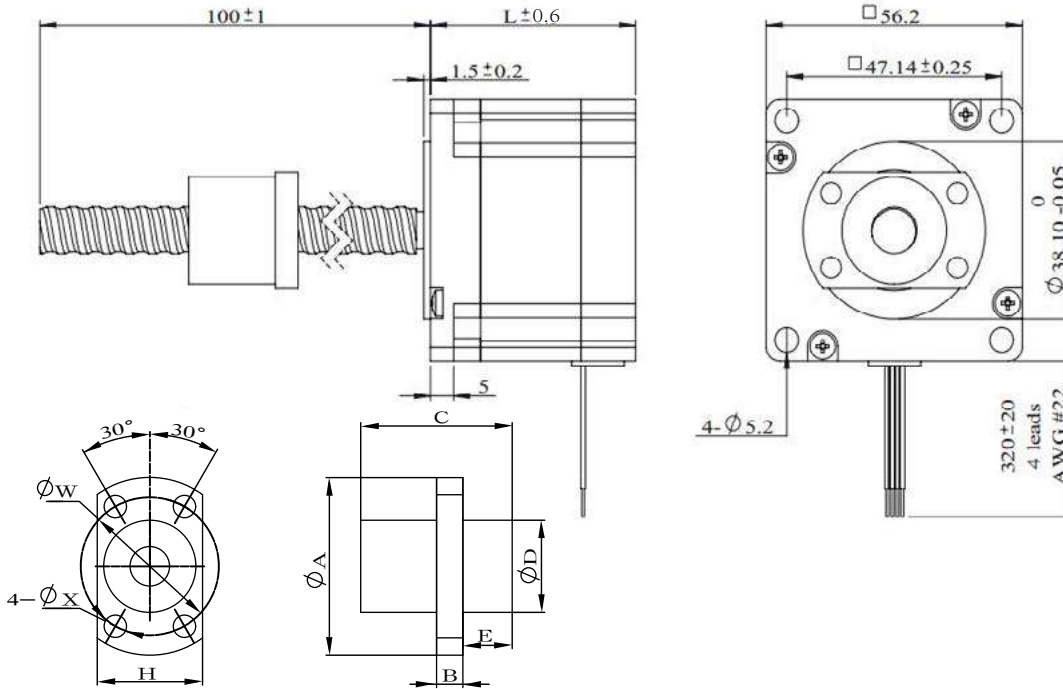
TEST CONDITION:

Testing Voltage: 24Vdc, Driver Model: DS-2422-001 bipolar, chopper driver at rated current. Motor's thrust will be changed with different voltage and driver. 50% thrust margin is recommended.

Electrical Parameter

Model NO.	Rated Voltage(V)	Current (A)	Resistance (Ω)	Inductance (mH)	Lead wire No.	Motor length "L"(mm)
23E2120	3.5	2.0	1.75	4.1	4	45
23E2130	2.4	3.0	0.8	1.7	4	45
23E2225	5.0	2.5	2.0	5.2	4	65
23E2240	2.8	4.0	0.7	2.0	4	65

Dimensional drawings



NOTE: All drawings are First Angle Projection – ISO Standard. (3D Models are available).

Size 23 (57 mm) Series

Ball Screw Specification

Ball screw type	1002	1004	1005	1010	1015	1020	1202	1210					
Ball size	Φ1.5875	Φ2.0	Φ2.0	Φ2.0	Φ2.0	Φ1.5875	Φ1.5875	Φ2.381					
Number of thread	1	1	1	2	2	4	1	2					
Thread direction	Right												
Shaft root dia.	Φ8.6	Φ8.2	Φ8.2	Φ8.4	Φ8.4	Φ8.7	Φ10.6	Φ10.2					
Number of circuit	3.7×1	2.7×1	2.7×1	1.6×1	1.6×2	0.7×2	3.7×1	1.7 x 2					
Shat, nut material	SCM415H												
Surface hardness	HRC58~62												
Anti-rust treatment	Anti-rust oil												
Grade	C7												
Nut size	A	B	C	D	H	W	X	E	Position accuracy	Total run out	Axial play	Dynamic load(N)	Static load(N)
1002	40	5	24	23	25	32	4.5		±0.05	0.12	0.03	2700	5300
1004	41	5	28	24	26	33	4.5		±0.05	0.12	0.03	3000	5200
1005	40	5	26	23	25	32	4.5		±0.05	0.12	0.03	3000	5200
1010	40	5	24	23	25	32	4.5	6	±0.05	0.12	0.03	3300	5900
1015	40	5	33	23	25	32	4.5	6	±0.05	0.12	0.03	3300	6400
1020	37	5	23	20	22	29	4.5	5	±0.05	0.12	0.03	2100	4000
1202	42	5	24	25	27	34	4.5		±0.05	0.12	0.03	3000	6400
1210	41	5	30	24	26	33	4.5	9.5	±0.05	0.12	0.03	5100	9800

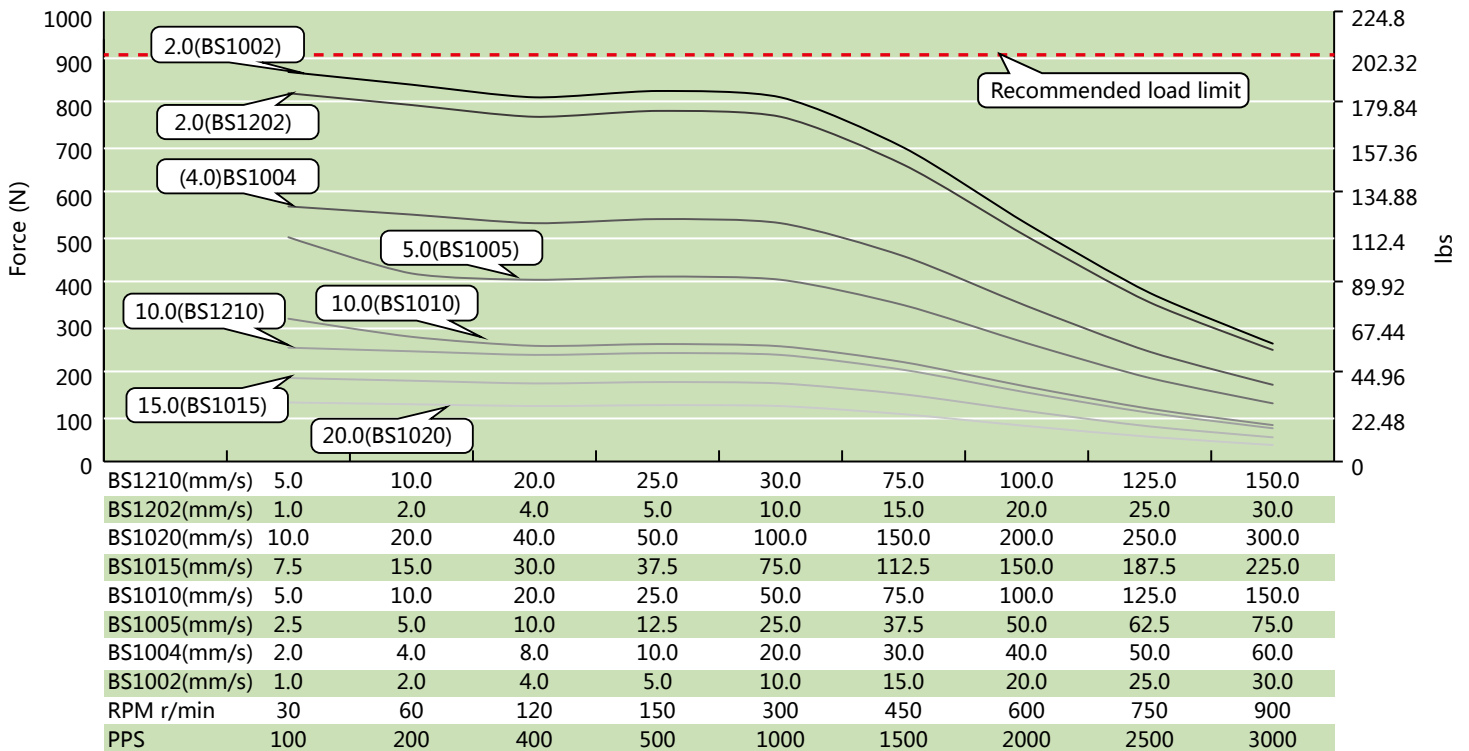
Size 23 (57 mm) Series

Size 23 (57mm) Performance Curves

Size 23 (57mm) Single Stack Speed Thrust Curves

Screw Diameter 10.0mm / 12.0mm
(Recommended load limit 910N)

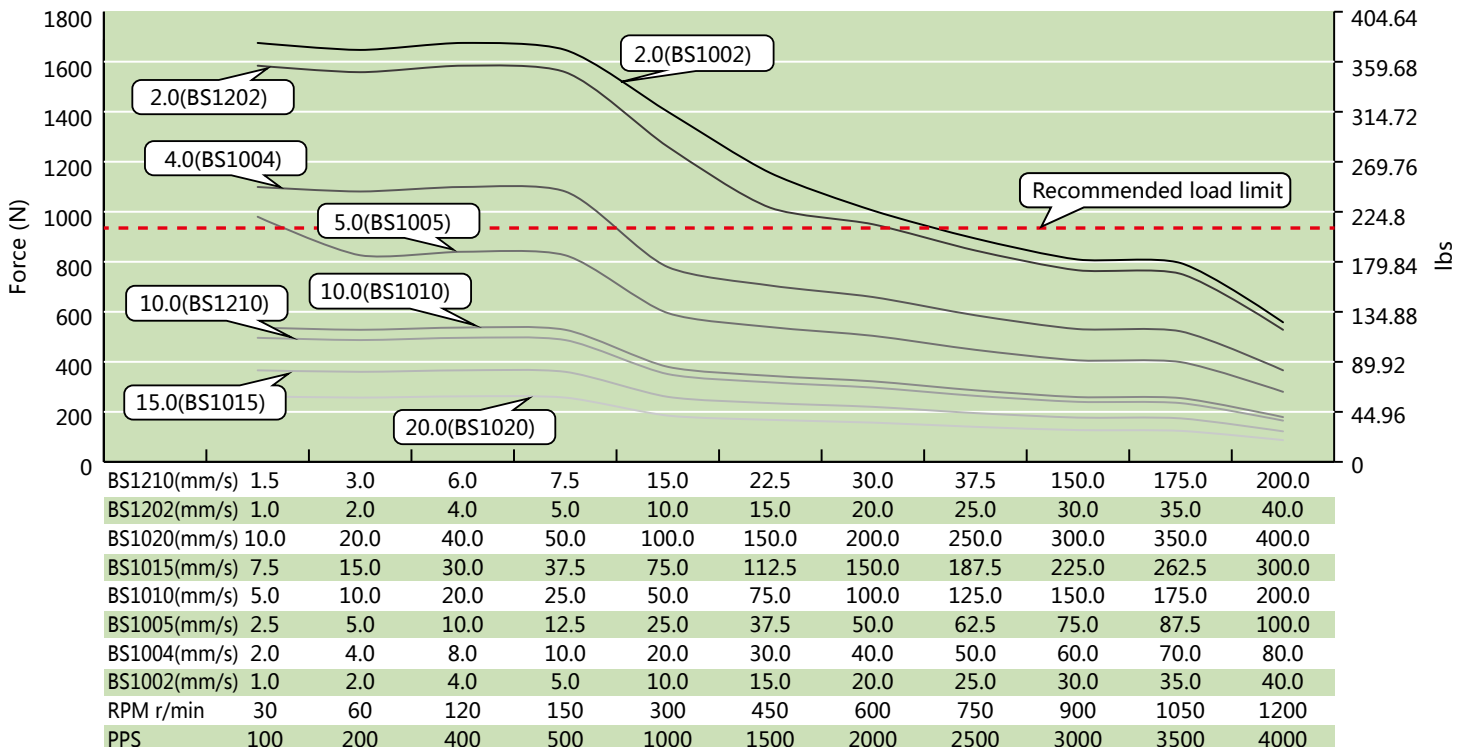
Bipolar, Chopper Driver, 2.0 A Peak



Size 23 (57mm) Double Stack Speed Thrust Curves

Screw Diameter 10.0mm / 12.0mm
(Recommended load limit 910N)

Bipolar, Chopper Driver, 4.0 A Peak

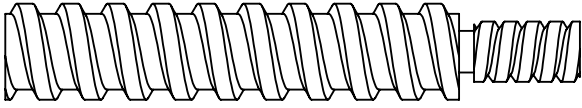
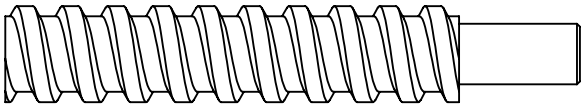
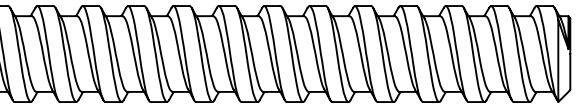
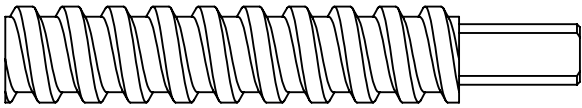


TEST CONDITION:

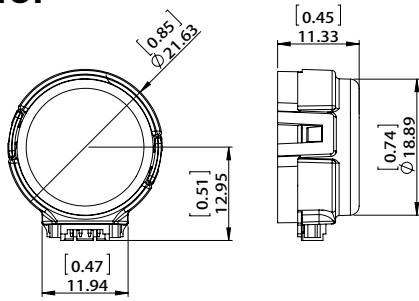
Testing Voltage: 40Vdc, Driver Model: DS-5045-003 bipolar, chopper driver at rated current. Motor's thrust will be changed with different voltage and driver. 50% thrust margin is recommended.

Accessories and Options

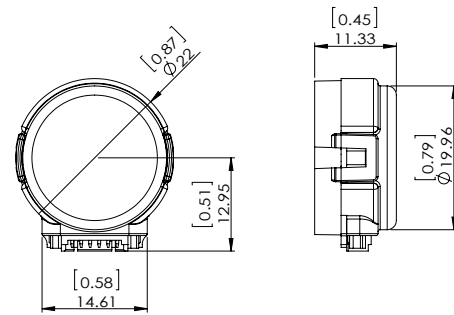
■ Ball Screw End Machining

	Thread End	<p>Customized screw end machining are available, please contact DINGS` representatives for more details.</p>
	Smooth End	
	None	
	Customized	

Encoder



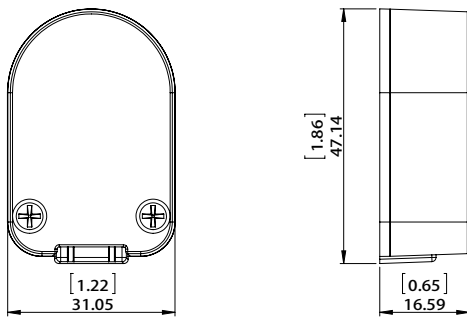
EK1 Encoder – single ended output



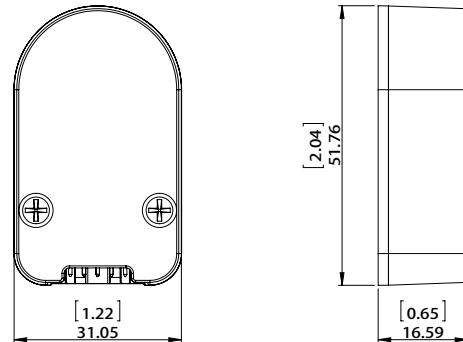
EK1 Encoder – differential output

EK1 Encoder (Used for Size 8, 11, 14, 17 Motor)* No index

Resolution(CPR)	100	108	120	125	128	200	250	256	300	360	400	500
Single ended output	0	1	2	3	4	5	6	7	8	9	10	11
Differential output	A	B	C	D	E	F	G	H	I	J	K	L



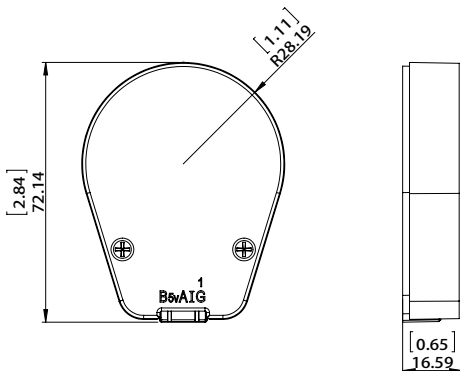
EK2 Encoder – single ended output



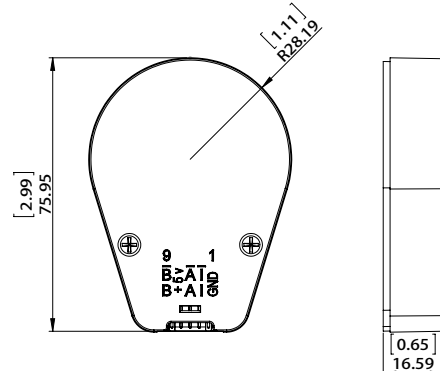
EK2 Encoder – differential output

EK2 Encoder (Used for Size 14, 17, 23 Motor)* Index /No index

Resolution(CPR)	50	100	192	200	250	256	360	400	500	720	900	1000	1250	2000	2500	4000	5000
Single ended output	0	1	2	3	4	5	6	7	8	9	10	11	12				
Differential output	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q



EK3 Encoder – single ended output

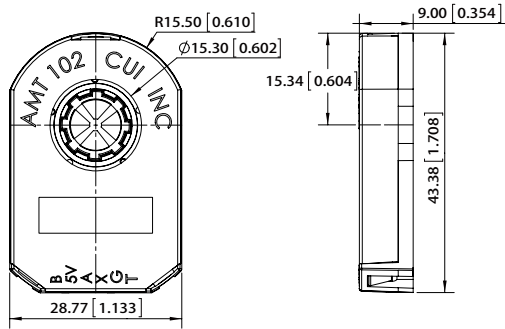


EK3 Encoder – differential output

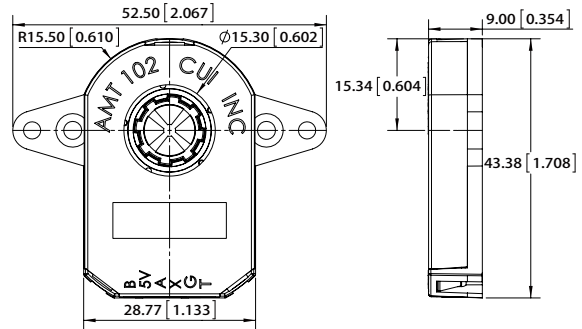
EK3 Encoder (Used for Size 23, 34 Motor)* Index /No index

Resolution(CPR)	64	100	200	500	1000	1800	2000	2500	3600	4000	5000	7200	8000	10000
Single ended output	0	1	2	3	4	5	6	7	8					
Differential output		A	B	C	D	E	F	G	H	I	J	K	L	M

Accessories and Options



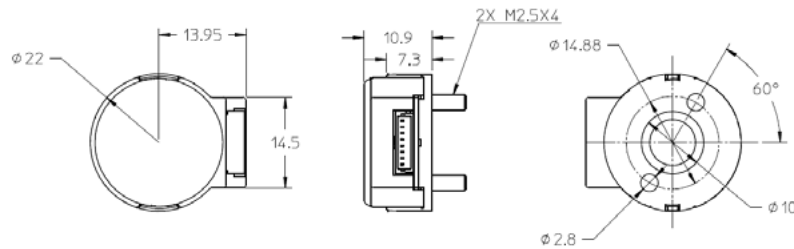
EK4 Encoder-single ended output (size14,17)



EK4 Encoder-single ended output (size23)

● **EK4 Encoder (Used for Size 14, 17, 23 Motor)*** Index

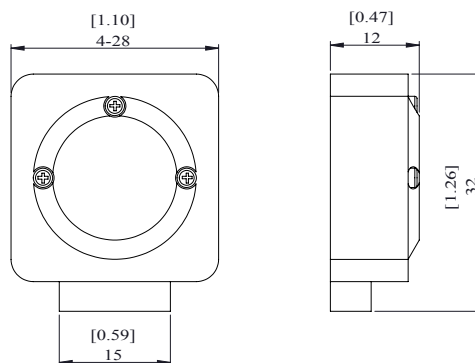
Resolution(PPR)	48	96	100	125	192	200	250	256	384	400	500	512	800	1000	1024	2048
Single ended output	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Differential output	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



EK5 Encoder – differential output

● **EK5 Encoder (Used for Size 8, 11, 14, 17 Motor)*** Index

Resolution(CPR)	360	500	512	1000	1024	2000	2048
Single ended output	0	1	2	3	4	5	6
Differential output	A	B	C	D	E	F	G



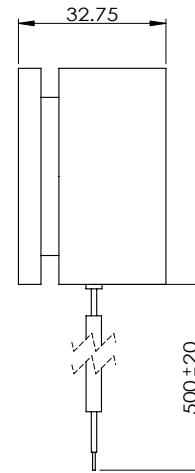
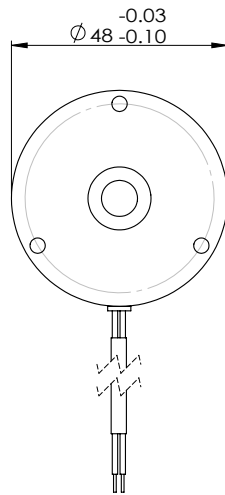
EK6 Encoder – differential output

● **EK6 Encoder (Used for Size 11, 14, 17 Motor)*** No index

Resolution(PPR)	100	200	400	500	1000	2000	10000	Non-standard custom
Differential output	0	1	2	3	4	5	6	

■ **Power OFF Brake**

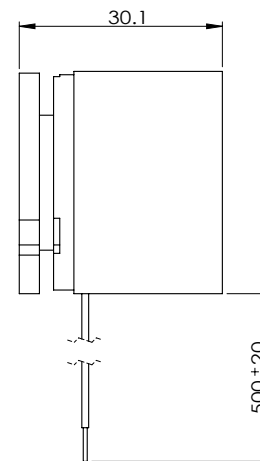
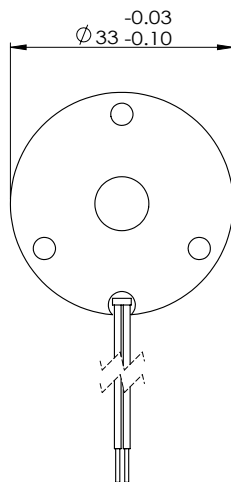
● **1.3 Nm (Available for size 23 motor)**



● **Parameter**

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Rated voltage: DC24V +/- 10% 2. Resistance: 89.4 +/-5% 3. Power consumption: 6.5W 4. Holding torque: 1.3 Nm min 5. Insulation Class F 6. Rotor Inertia: $1.47 \times 10^{-6} \text{kg.m}^2$ 7. Insulation resistance: >100Mohm (DC500V) | <ol style="list-style-type: none"> 8. Dielectrical Strength: 1800 VAC for 1 second 9. Retraction time: 50ms 10. Release time: 20ms 11. Gyration gap: <math><1.5^\circ</math> 12. Emergency brake times: >200 times 13. Lifetime: >2,000,000 times 14. Noise Level: <60db |
|--|---|

● **Power OFF Brake 0.32 Nm (Available for size 14, 17 motor)**



● **Parameter**

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Rated Voltage: DC24V +/- 10% 2. Resistance: 94.4 +/-5% 3. Power consumption: 6.1W 4. Hold Torque: 0.32N.m 5. Insulation Class F 6. Rotor Inertia: $1.37 \times 10^{-7} \text{kg.m}^2$ 7. Insulation Resistance: >100Mohm (DC500V) | <ol style="list-style-type: none"> 8. Dielectrical Strength: 1800 VAC for 1 second 9. Retraction time: 50ms 10. Release time: 20ms 11. Gyration Gap: <math><1.5^\circ</math> 12. Emergency brake times: >200 times 13. Lifetime: >2,000,000 times 14. Noise Level: <60db |
|--|---|

Installation Guide

■ PRECAUTION OF HANDLING AND OPERATING

This product integrates the motor and screw. Repair is not possible for either of these components, please handle with care.

● PRECAUTION FOR OPERATING

1. Before use, read instruction manuals and the precautions below;
2. Do not hit or drop the motor/leadscrew. Do not apply axial or radial loads exceeding the specifications, it may cause the motor to malfunction;
3. Before use, make sure that the product matches your order and is free of defects;
4. Do not disassemble any components, dust may get inside and could affect the accuracy of the actuator;
5. Protect motor and leadscrew from dust and swarf as they can cause damage and affect the accuracy of the actuator;
6. Lubrication is required for ball screw operation. Lubricant should be checked every 2 – 3 months. If the grease is contaminated, replace with new coating;
7. Do not exceed speed and load specifications of the motor;
8. Do not let the nut to over-run as it may cause the actuator to malfunction. If over-run occurs, contact us for an inspection with charge;
9. Do not hold the motor by the lead wires;
10. The motor torque and speed characteristics may vary from the specifications depending on load conditions and driver. Please adjust as appropriate.;
11. The motor has a resonant frequency as noted in the specifications. Please avoid when in use.

● PRECAUTION FOR SAFETY

1. If abnormal odor, noise, smoke, overheating, or vibration occurs, stop operation immediately and turn off power;
2. Do not exceed the motor's rated current;
3. The motor may overheat depending on load, speed, or driver used. Make sure that the temperature of the motor surface does not exceed 80°C;
4. Check wire connection, driver, and phase sequence. Inappropriate connection will lead to malfunction;
5. Do not bend, pull, or pinch the motor lead wires;
6. Do not touch moving parts during operation;
7. Disconnect motor from controller before performing dielectric withstanding voltage test or insulation test;
8. Switch off the driver during inspection or maintenance of motor.

- **OPERATING ENVIRONMENT**

1. Operating environment should be 0-40 °C in temperature and 20-80%RH in humidity. Do not use it under dew condensation, corrosive gas or inflammable gas environment;
2. Do not use it under strong electric or magnetic fields;
3. Protect motor from swarf, oil mist, cutting fluid, water/moisture, salt spray, organic solvents and other contamination;
4. Protect ball screw from dust and dirt by using it inside a clean enclosure.

- **BALL SCREW MAINTENANCE**

- 1. BALL SCREW PAIR PROTECTION DEVICE**

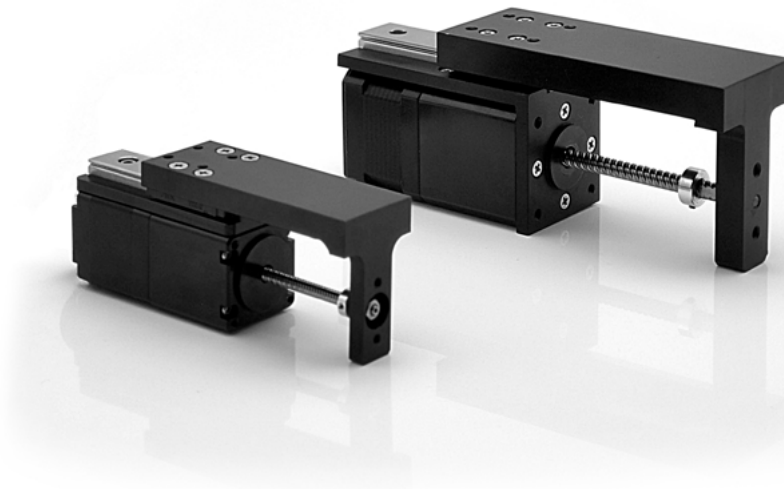
- (1) Use of the ball screw in the use of the process, is strictly prohibited dust or dirt entering, and therefore must be equipped with protective device;
- (2) You can further protect the ball screw and nut with the use of a coil spring steel tape sleeve, a telescopic sleeve and a folding sleeve, etc.. When installing, connect one end of the shield to the side of the ball nut. The other end is fixed on the supporting seat of the ball screw;
- (3) A sealing ring is placed on either ends of the screw, do not take off these rings. Do not remove the nut from the screw.

- 2. LUBRICATION OF BALL SCREW**

- (1) The ball screw usually uses two kinds of lubricants, lithium-based grease and oil. The grease is used to coat the ball screw and the ball-bearing raceways. The oil is used to fill the gap between the balls in the bearings.

Stepping Motor & Ball Screw Integrated Compact Electric Linear Actuator

It is a product that integrates a stepping motor and a ball screw to achieve linear motion. By reducing the number of mechanical components such as couplings, miniaturization and high-precision positioning of the device can help improve device performance.



Part number construction

A-85

28 Series

A-86

42 Series

A-88

Installation guide

A-90

DLG - 28 S1 - R01 - S30 - EK1 - 001

①
②
③
④
⑤
⑥
⑦

① Motor Type

DLG = Electric slide with guide rail
DRS = Electric slide without guide rail

② Motor Size

28 = Motor square size 28mm
42 = Motor square size 42mm
56 = Motor square size 56mm

③ Motor Length/Stack

S1 = Single stack electric current 1A
D1 = Double stack electric current 1A

④ Optional lead(1、 2、 4、 5、 6、 8、 10)

⑤ Stroke

30 = stroke 30mm(28)
40/70 = stroke 40mm/70mm(42)
50/100 = stroke 50mm/100mm(56)

⑥ Optional Encoder

EK1 = E4T
EK2 = E5
EK3 = E6
EK5 = AS22
ER = Encoder Ready

⑦ Customer Code

Example

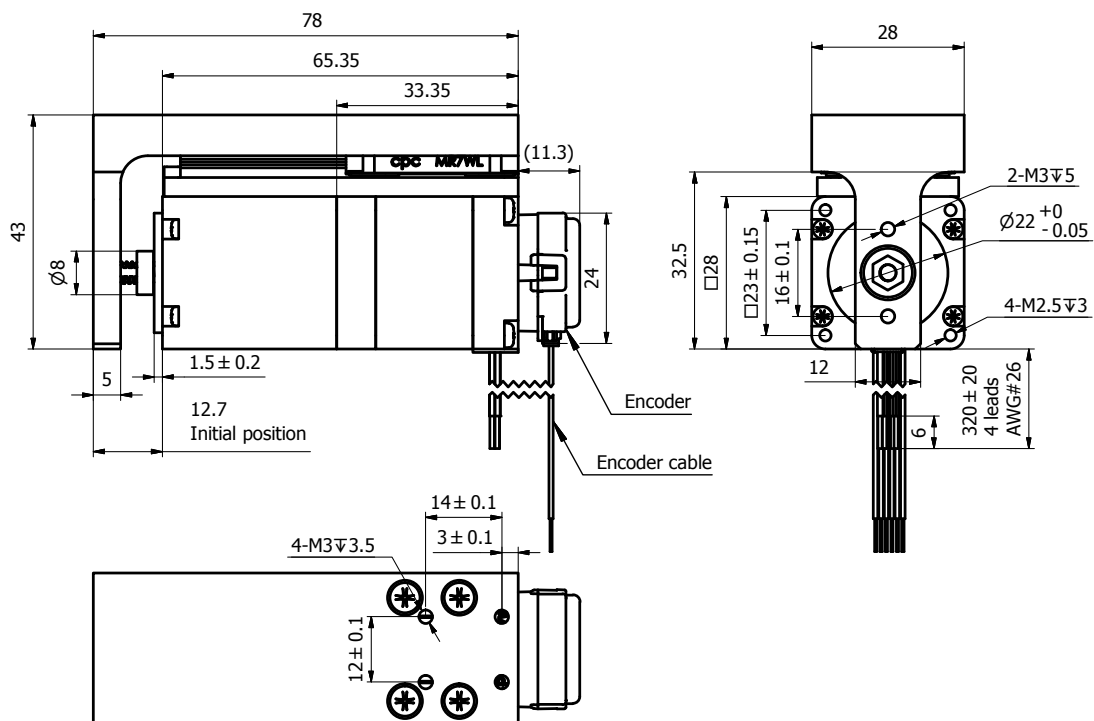
Part number	DLG-28S1-R01-S30-EK1-001
Description	Φ28mm Frame Size Single Stack Screw lead 1mm Stroke 30mm E4T Encoder Customer Code 001

28 Series

Motor Characteristics

Model No.	Voltage (V)	Current (A)	Resistance (Ω)	Inductance (mH)	Lead Wire No.	Motor Length (mm)
11E2110	2.1	1.0	2.1	1.5	4	33.5
11E2209	3.9	0.95	4.1	4.0	4	45

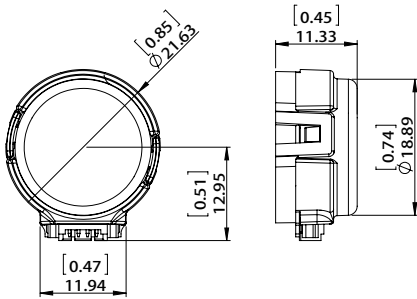
Motor Dimensions



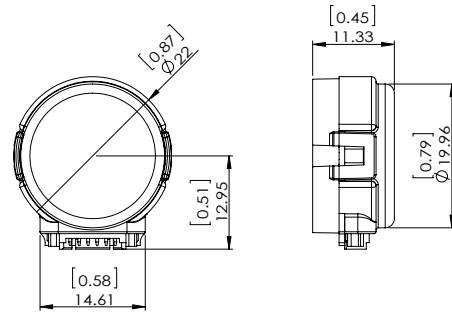
Characteristics

Part Number: DS-DLG28-S30-001;
 Stroke: 30mm
 Maximum Thrust: 30N;
 Repeat Positioning Accuracy: 0.01mm
 Optional Ball Screw Lead: 1mm/2mm;

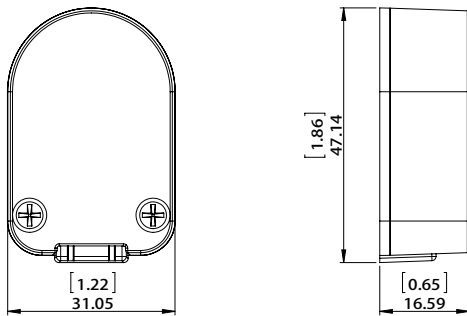
Optional Encoder



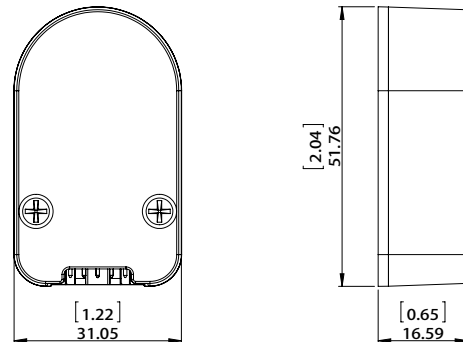
EK1 Encoder – single ended output



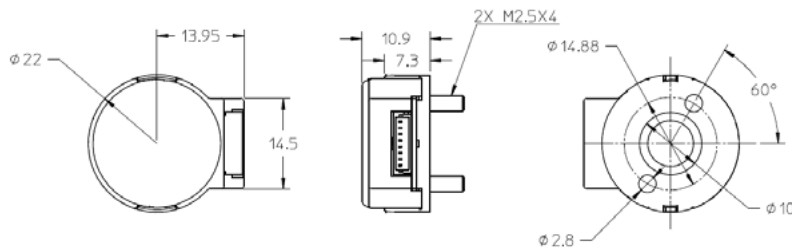
EK1 Encoder – differential output



EK2 Encoder – single ended output



EK2 Encoder – differential output



EK5 Encoder – differential output

Characteristics

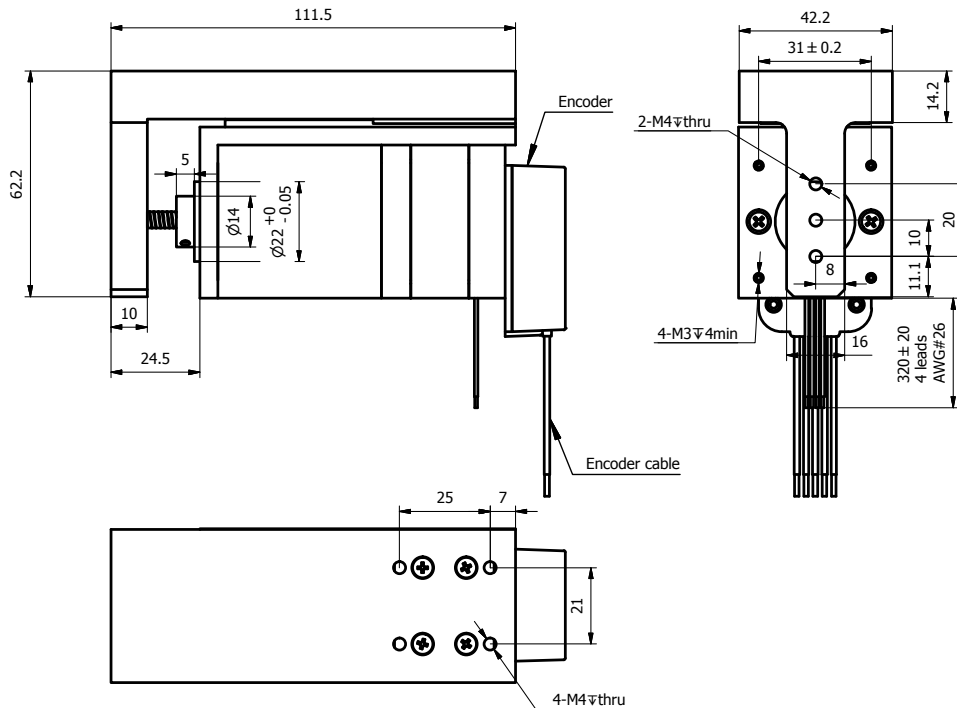
Encoder	EK1	EK2	EK5
Type	Incremental	Incremental	Incremental
Resolution	100-1000 CPR	200-5000CPR	200-2000 CPR
Index Signal	NE	Optional(IE/NE)	IE
Output Method	Single end output	S/D	Differential Output
Output Format	Orthogonal	Orthogonal	Orthogonal

42 Series

Motor Characteristics

Model No.	Voltage (V)	Current (A)	Resistance (Ω)	Inductance (mH)	Lead Wire No.	Motor Length (mm)
17E2110	3.80	1.0	3.80	5.0	4	34.1
17E2115	2.78	1.5	1.85	2.2	4	34.1
17E2212	4.56	1.2	3.80	8.0	4	48.1
17E2225	2.25	2.5	0.90	1.8	4	48.1

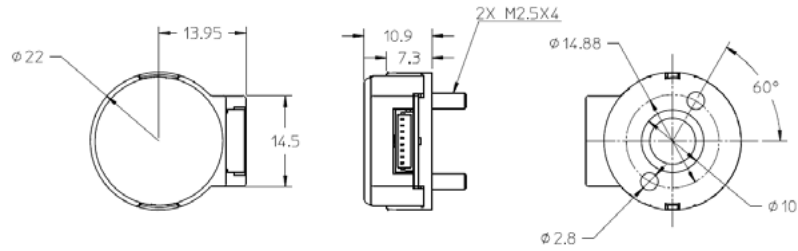
Motor Dimensions



Characteristics

Part Number: DS-DLG42-S40-001;
 Stroke: 40mm/70mm
 Maximum Thrust: 100N;
 Repeat Positioning Accuracy: 0.01mm
 Optional Ball Screw Lead: 1mm/2mm/6mm/10mm;

- **Optional Encoder**
- **Dimensions**



EK5 Encoder – differential output

● **Characteristics**

Encoder	EK5
Type	Incremental
Resolution	200-1000CPR
Index Signal	Optional(IE/NE)
Output Method	Single/Differential
Output Format	Orthogonal

Installation Guide

■ Precaution for operating

1. Before use, please read instruction manuals and follow the precautions below.
2. Do not hit or drop the shaft, do not apply Axial load or radial load exceeding specifications, it may cause malfunction.
3. Before use, please check that the product has no defect, and product is the same as your order.
4. Do not disassemble each component, dust may get inside the product. It may deteriorate accuracy.
5. Please prevent contamination from dust or swarf. Dust or swarf may cause damage to ball screw, Which lead to deteriorating the function.
6. Lubrication is required under the ball screw operation. Lubrication condition should be checked every 2-3months.
If grease is contaminated, remove old grease and replace with new one.
7. Do not use the motor exceeding our specification in load or speed.
8. Allowing ball screw nut to over-run may result in malfunctioning due to balls escaping, damage to recycling parts, and indentation on the raceways. Therefore ball screw nut must never be allowed to over-run.
If over-running occurs, contact us for an inspection with charge.
9. Do not hold the motor lead wire. It is for fixation, do not use it as movement.
10. The motor torque and speed characteristics may vary from the specifications, depending on the load conditions or Driver used. Please adjust as appropriate.
11. The motor has a resonant point within the specifications. Please avoid it when in use.

■ Precaution for safety

1. If abnormal odor, noise, smoke, overheating, or vibration occurs, stop operation immediately and turn the power off.
2. Do not use the exceeding rated current.
3. The motor may overheat depending on the load condition or Driver used.
Make sure that the motor surface temperature dose not exceed 80°C when in use.
4. Check the wire connection type, Drive system, and phase sequence. Inappropriate connection leads to malfunction.
5. Do not bend, pull or pinch the motor lead wire.
6. Do not touch moving parts during operation.
7. Disconnect from the controller before performing dielectric withstanding voltage test of the motor or Insulation test.
8. Please switch off the Driver, when inspection or maintenance.

■ Operating environment

1. Operating environment should be 0-40°C in temperature and 20-80%RH in humidity.
Do not use it under dew condensation, corrosive gas or inflammable gas environment.
2. Do not use it under strong electric field, strong magnetic field.
3. Please prevent from swarf, oil mist, cutting fluid, water/moisture, salt spray, organic solvent and other contamination.
4. The motor can not be used under the vibration, impact, vacuum, and other special environment.