

LE SERIES

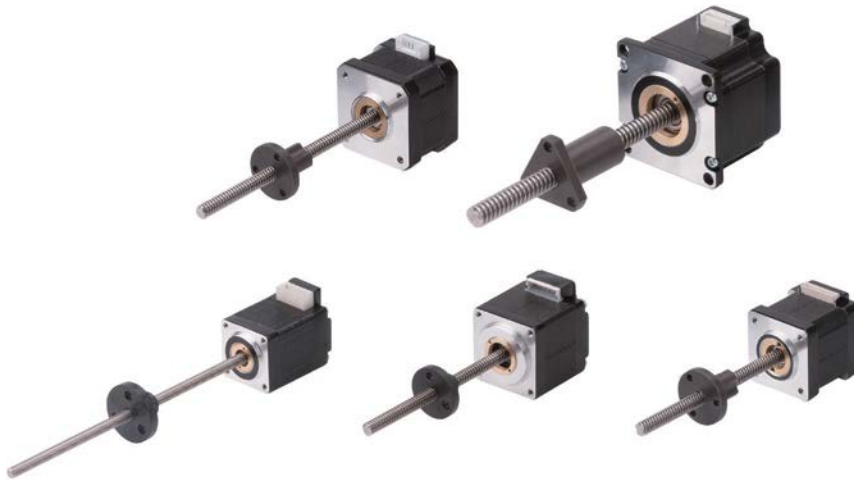
Lead Screw Actuators



LE series (External Nut Type) is a type of linear step motor which makes a lead screw integrated with the motor to become the motor shaft and the nut is external to the motor. As the motor rotates, the nut moves linearly along the lead screw.

- 5 frame sizes: NEMA 08, 11, 14, 17, 23
- Each frame size has multiple motor length options
- Standard or anti-backlash nut option
- Standardized product models for quick response

The lead screw motors provide high torque, high precision, and high efficiency to fit the application needs of designers. The combination of lead screw motor styles, sizes, lead-screws and nuts, gives the freedom to use motors of different form factors to exactly fit the application. Lead screw motors provide the best performance with any drive and power supply.



Numbering System

LE	174S	-	T0808	-	100	-	AR1	-	S	-	XXX
1	2		3		4		5		6		7
Series	Motor type		Lead screw type		Screw length (mm)		Nut type		Customized Code S=Screw End Machining		Rated Current XXX=X.XX(A)

LE Series Configuration Table - Metric Screw

Nominal Diameter (mm)	Lead (mm)	Lead Screw Code	Motor Options						
			LE080K	LE081K	LE081S	LE111S	LE113S	LE115S	LE141A
3.5	1	M3501	●	●	●				
5	1	M0501				●	●	●	
	5	M0505				●	●	●	
6	1	W0601				●	●	●	●
	2	M0602				●	●	●	●
6.5	3	T6503				●	●	●	●
8	1	T0801							●
	1.25	T08012							●
	3	T0803							●
	4	T0804							●
	5	T0805							●
	8	T0808							●
	12	T0812							●
	20	T0820							●
10	1	M1001							
	2	M1002							
	4	M1004							
	10.5	T10105							
12	2	T1202							
	6	T1206							
14	4	T1404							

Note: 1. Marked with "●" is available.

2. The table shown is standard leadscrew options,
for PTFE coated screws or other configurations, contact PBC Linear.

Nominal Diameter (mm)	Motor Options									
	LE141S	LE143S	LE174A	LE174S	LE172S	LE176S	LE234S	LE238S	LE23AS	LE23ASP
3.5										
5										
6	●	●								
	●	●								
6.5	●	●								
8	●	●	●	●	●	●				
	●	●	●	●	●	●				
	●	●	●	●	●	●				
	●	●	●	●	●	●				
	●	●	●	●	●	●				
	●	●	●	●	●	●				
	●	●	●	●	●	●				
	●	●	●	●	●	●				
10			●	●	●	●	●	●	●	●
			●	●	●	●	●	●	●	●
			●	●	●	●	●	●	●	●
			●	●	●	●	●	●	●	●
12							●	●	●	●
							●	●	●	●
14							●	●	●	●

LE Series Configuration Table - Inch Screw

Nominal Diameter		Lead	Lead Screw Code	Motor Options						
inch	mm	inch		LE080K	LE081K	LE081S	LE111S	LE113S	LE115S	LE141A
0.138	3.51	0.024	E03006	●	●	●				
		0.048	E03012	●	●	●				
		0.096	E03024	●	●	●				
0.188	4.78	1/40	E04006	●	●	●	●	●	●	
		1/20	E04012	●	●	●	●	●	●	
		1/10	E04025	●	●	●	●	●	●	
0.218	5.54	0.024	E05006				●	●	●	
		0.048	E05012				●	●	●	
		0.192	E05048				●	●	●	
0.25	6.35	1/32	E06008				●	●	●	●
		1/16	E06016				●	●	●	●
		0.096	T06024				●	●	●	●
		1/8	E06032				●	●	●	●
		1/4	E06063				●	●	●	●
		0.333	E06085				●	●	●	●
		0.384	E06097				●	●	●	●
		1/2	E06127				●	●	●	●
0.375	9.53	1/16	E09015							
		1/10	E09025							
		1/5	E09050							
		2/5	E09102							
0.472	11.99	1	E12254							

- Note: 1. Marked with "●" is available.
 2. The table shown is standard leadscrew options,
 for PTFE coated screws or other configurations, contact PBC Linear.
 3. 1 inch = 25.4 mm

Nominal Diameter	Motor Options									
inch	LE141S	LE143S	LE174A	LE174S	LE172S	LE176S	LE234S	LE238S	LE23AS	LE23ASP
0.138										
0.188										
0.218										
0.25	●	●	●	●	●	●				
	●	●	●	●	●	●				
	●	●	●	●	●	●				
	●	●	●	●	●	●				
	●	●	●	●	●	●				
	●	●	●	●	●	●				
	●	●	●	●	●	●				
	●	●	●	●	●	●				
0.375			●	●	●	●	●	●	●	●
			●	●	●	●	●	●	●	●
			●	●	●	●	●	●	●	●
			●	●	●	●	●	●	●	●
0.472							●	●	●	●

LE Series Standard Models for stock

Size (mm)	Motor Series		Lead Screw Options		Screw Length Options				Nut Options		End Machining Code		Rated Current Options	
20 X 20	LE080K	-	E03006	-	30, 40, 50, 60, 70, 80, 90, 100, 110, 120,130, 140, 150			-	AR0	-	S	-	040	
		E04025												
	LE081K	-	E03006	-	30, 40, 50, 60, 70, 80, 90, 100, 110, 120,130, 140, 150			-	AR0	-	S	-	040	
		E04025												
28 X 28	LE111S	-	W0601	-	50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200			-	AR1	-	S	-	050, 100	
		T6503												
		E06063												
		E06127												
	LE115S	-	W0601	-	50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200			-	AR1	-	S	-	100	
		T6503												
		E06063												
		E06127												
35 X 35	LE141S	-	W0601	-	50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200			-	AR1	-	S	-	100	
		T6503												
		E06063												
		E06127												
	LE143S	-	W0601	-	50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200			-	AR1	-	S	-	050, 150	
		T6503												
		E06063												
		E06127												
4 2X 42	LE174S	-	T08012	-	50, 60, 75, 90, 100, 110, 125, 140, 150, 160, 175, 190, 200, 210, 225, 240, 250, 260, 275, 290, 300			-	AR3	-	S	-	065, 150	
		T0804												
		T0808												
	LE172S	-	T08012	-	50, 60, 75, 90, 100, 110, 125, 140, 150, 160, 175, 190, 200, 210, 225, 240, 250, 260, 275, 290, 300			-	AR3	-	S	-	100, 200	
		T0804												
		T0808												
	LE176S	-	T08012	-	50, 60, 75, 90, 100, 110, 125, 140, 150, 160, 175, 190, 200, 210, 225, 240, 250, 260, 275, 290, 300			-	AR3	-	S	-	100, 200	
		T0804												
		T0808	-					AR2						
		T10105												
	57 X 57	LE234S	-	T1202	-	100, 125, 150, 175, 200, 225, 250, 275, 300, 325, 350, 375, 400			-	AR2	-	S	-	210
			T1206											
T10105			-						AR6					
E12254														
LE238S		-	T1202	-	100, 125, 150, 175, 200, 225, 250, 275, 300, 325, 350, 375, 400			-	AR2	-	S	-	220	
		T1206												
		T10105	-					AR6						
		E12254												
LE23AS		-	T1202	-	100, 125, 150, 175, 200, 225, 250, 275, 300, 325, 350, 375, 400			-	AR2	-	S	-	150, 300	
		T1206												
		T10105	-					AR6						
		E12254												

Order sample	① Select configuration codes					
	Motor Series	Lead Screw Options	Screw Length Options	Nut Options	End Machining Code	Rated Current Options
	LE111S	- W0601	- 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200	- AR1	- S	- 050, 100
	② Determine the order Models					
	LE111S - W0601 - 100 - AR1 - S - 050					
	In addition to the standard order models, we also provide a wealth of customized configuration options, for more information please contact the factory.					

LE08 Series

Phases	2
Step Accuracy	±5%
Approvals	RoHS
Insulation Class	B(130°C)
Operating Temp.	0°C~+50°C



Ordering Information

LE 08 0K - E03006 - 100 - AR0 - 0 - XXX

Lead Screw Motor Type Code

Code	Mating Motor
LE	External Nut Type

Frame Size Code

Code	Frame Size
08	20 mm

Motor Body Length Code

Code	Additional Options	Step Angle (°)
0K	20	1.8
1K	27	
2S	30	

Lead Screw Type Code

Code	Nominal Diameter (mm)	Lead (mm)	Travel (mm) Travel Per 1.8°
M3501	3.5	1	0.005

Code	Nominal Diameter Inch	Nominal Diameter mm	Lead Inch	Travel (mm) Travel Per 1.8°
E03006	0.138	3.51	0.024	0.0030*
E03012			0.048	0.0061*
E03024			0.096	0.0122*
E04006	0.188	4.78	1/40	0.0032*
E04012			1/20	0.0064*
E04025			1/10	0.0127*

* Number is abbreviated

Rated Current Code

XXX=X.XX(A)

Special Custom Type Code

Code	Nut Type
0	No End Machining
S	Lead Screw End Machining
E	Add Encoder
XX	Other Custom Type*

*For customization, please contact the manufacturer

Nut Type Code

Code	Nut Type
AR0	Round Standard Nut
BR0	Round Anti-Backlash Nut
AT0	Triangular Standard Nut
BT0	Triangular Anti-Backlash Nut
CN	Custom Made Nut*

*For customization, please contact the manufacturer

Length of Screw

###	Provided in 1 mm increments
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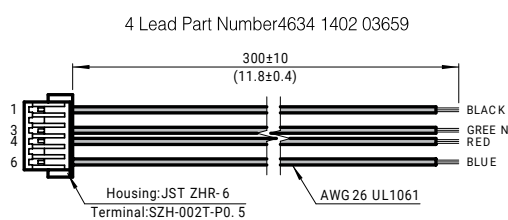
Note: Standard models are more readily available, see page 6 for standard models

LE08 Series

Motor Technical Parameters

Motor Type Code	Motor Body Length (mm)	Step Angle (°)	Electrical Connection	Rated Current (Amps)
LE080K	20	1.8	Leads	0.4
LE081K	27		Leads	0.4
LE081S	30		Plug In Connector	0.5

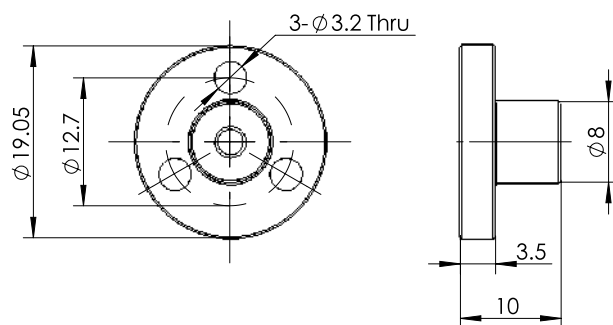
Mating Connector with Leads (only used for LE081S)



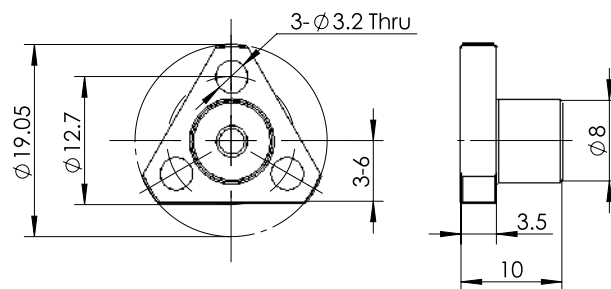
Nut Type

UNIT:mm

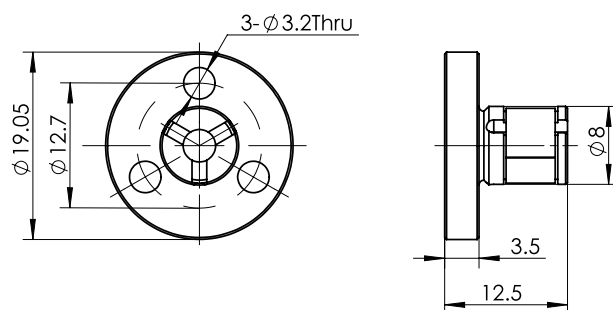
Round Standard Nut AR0



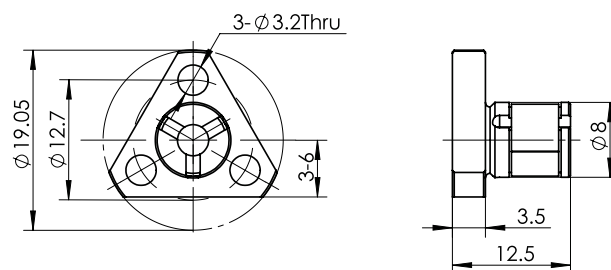
Triangular Standard Nut AT0



Round Anti-Backlash Nut BR0



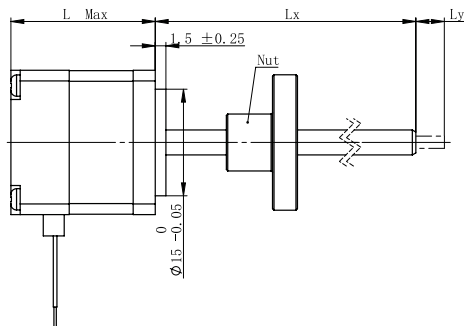
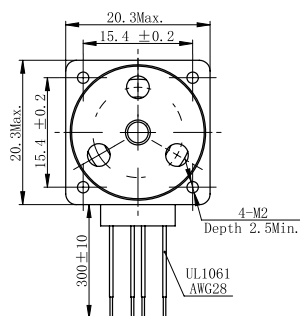
Triangular Anti-Backlash Nut BT0



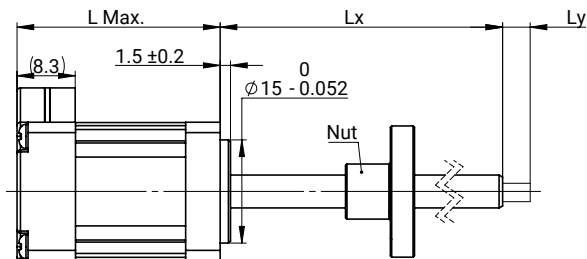
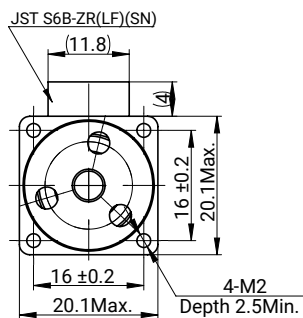
LE08 Series

Dimensional Information

UNIT:mm

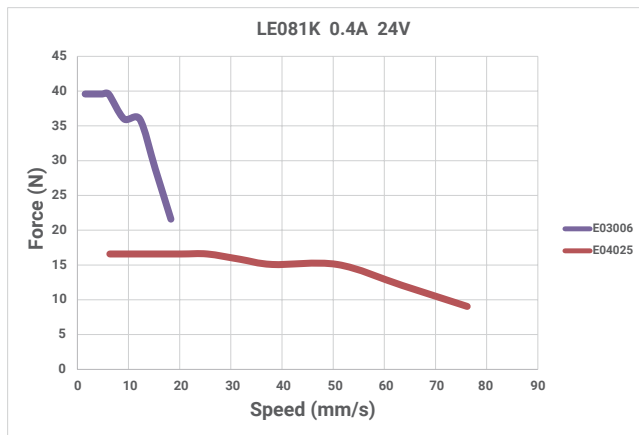
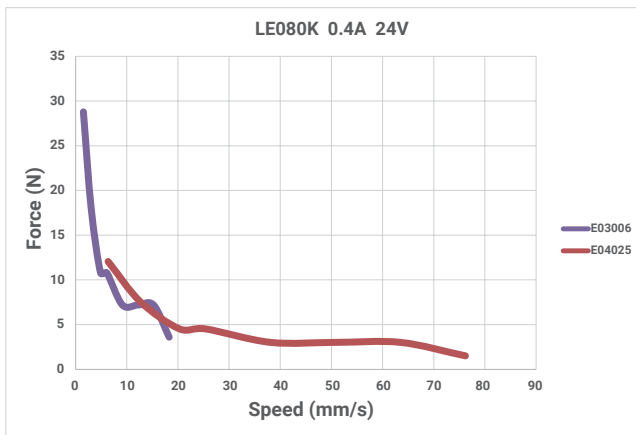


Motor Type	Dimension "L"
LE080K	20
LE081K	27



Motor Type	Dimension "L"
LE081S	30

Speed Force Reference Curves



Note: The curves are reference values obtained by calculation. The actual output should consider the customer's unique application, including speed, acceleration and deceleration, frequency, stability of guidance mechanism, etc.

LE11 Series

Phases	2
Step Accuracy	±5%
Approvals	RoHS
Operating Temp.	0°C~+50°C
Insulation Class	B(130°C)



Ordering Information

LE 11 1S - W0601 - 100 - AR1 - 0 - XXX

Lead Screw

Motor Type Code

Code	Mating Motor
LE	External Nut Type

Frame Size Code

Code	Frame Size
11	28 mm

Motor Body Length Code

Code	Additional Options	Step Angle (°)
1S	32	1.8
3S	41	
5S	52	

Lead Screw Type Code

Code	Nominal Diameter (mm)	Lead (mm)	Travel (mm) Travel Per 1.8°
M0505	5	5	0.025
W0601	6	1	0.005
M0602		2	0.01
T6503	6.5	3	0.015

Code	Nominal Diameter Inch	Nominal Diameter mm	Lead Inch	Travel (mm) Travel Per 1.8°
E04006	0.188	4.78	1/40	0.0032*
E04012			1/20	0.0064*
E04025			1/10	0.0127*
E05006	0.218	5.54	0.024	0.0030*
E05012			0.048	0.0061*
E05048			0.192	0.0244*
E06008	0.25	6.35	1/32	0.0039*
E06016			1/16	0.0080*
T06024			0.096	0.0122*
E06032			1/8	0.0159*
E06063			1/4	0.0318*
E06085			0.333	0.0423*
E06127			1/2	0.0635

* Number is abbreviated

Note: Standard models are more readily available, see page 6 for standard models

Rated Current Code

XXX=X.XX(A)

Special Custom Type Code

Code	Nut Type
0	No End Machining
S	Lead Screw End Machining
E	Add Encoder
B	Add Brake
XX	Other Custom Type*

*For customization, please contact the manufacturer

Nut Type Code

Code	Nut Type	Mating Lead Screw
AR0	Round Standard Nut	E04006 E04012 E04025 M0505
BR0	Round Anti-Backlash Nut	
AT0	Triangular Standard Nut	
BT0	Triangular Anti-Backlash Nut	
AR1	Round Standard Nut	E05006 E06063 E05012 E06085 E05048 E06127 E06008 W0601
BR1	Round Anti-Backlash Nut	
AT1	Triangular Standard Nut	
BT1	Triangular Anti-Backlash Nut	
CN	Custom Made Nut*	E06016 M0602 T06024 T6503 E06032

*For customization, please contact the manufacturer

Length of Screw

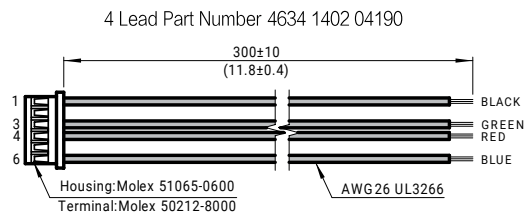
Provided in 1 mm increments

LE11 Series

Motor Technical Parameters

Motor Type Code	Motor Body Length (mm)	Step Angle (°)	Electrical Connection	Rated Current (Amps)
LE111S	32	1.8	Plug In Connector	0.5
				0.67
				1
LE113S	41		Plug In Connector	0.95
LE115S	52		Plug In Connector	1

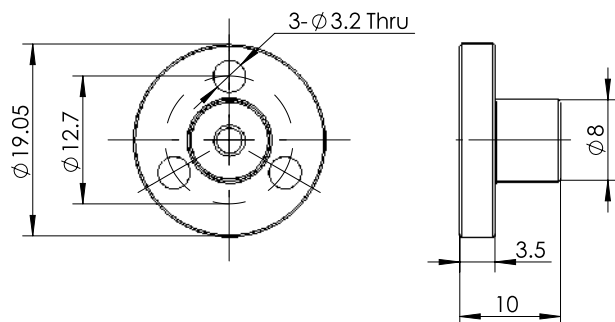
Mating Connector with Leads



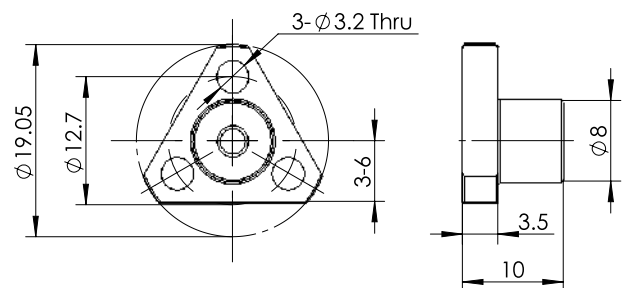
Nut Type

UNIT:mm

Round Standard Nut AR0

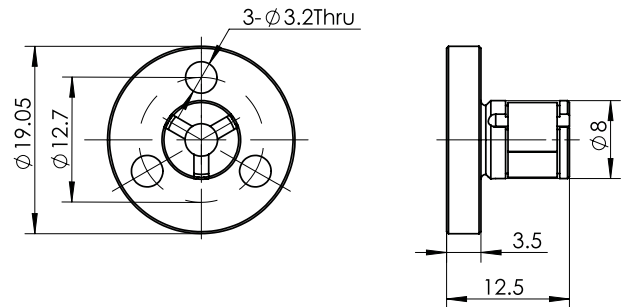


Triangular Standard Nut AT0

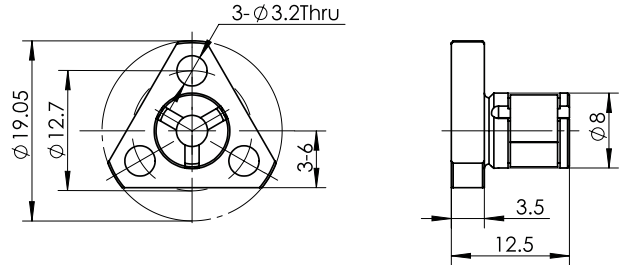


LE11 Series

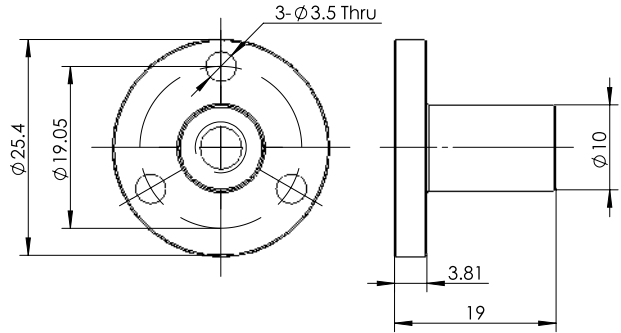
Round Anti-Backlash Nut BR0



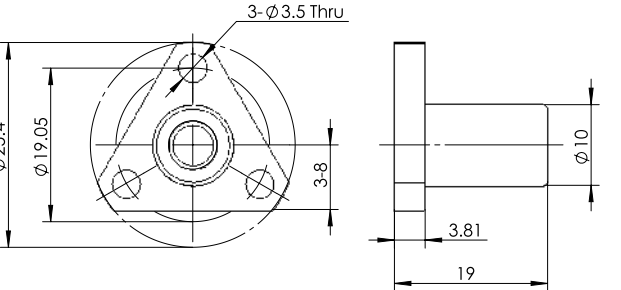
Triangular Anti-Backlash Nut BT0



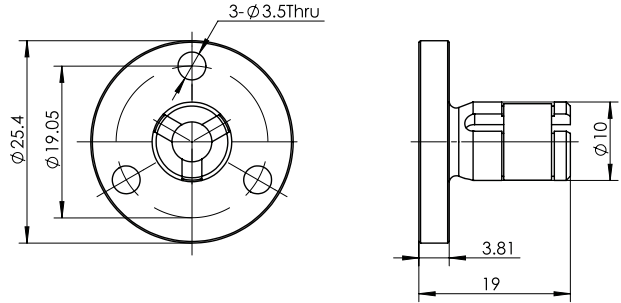
Round Standard Nut AR1



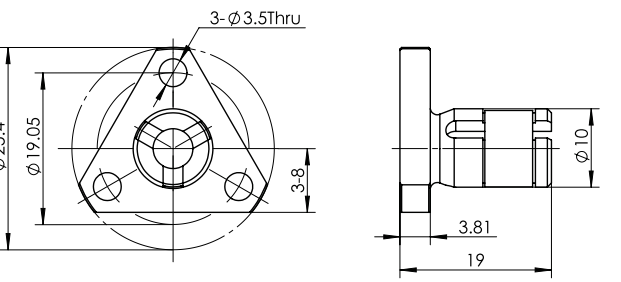
Triangular Standard Nut AT1



Round Anti-Backlash Nut BR1



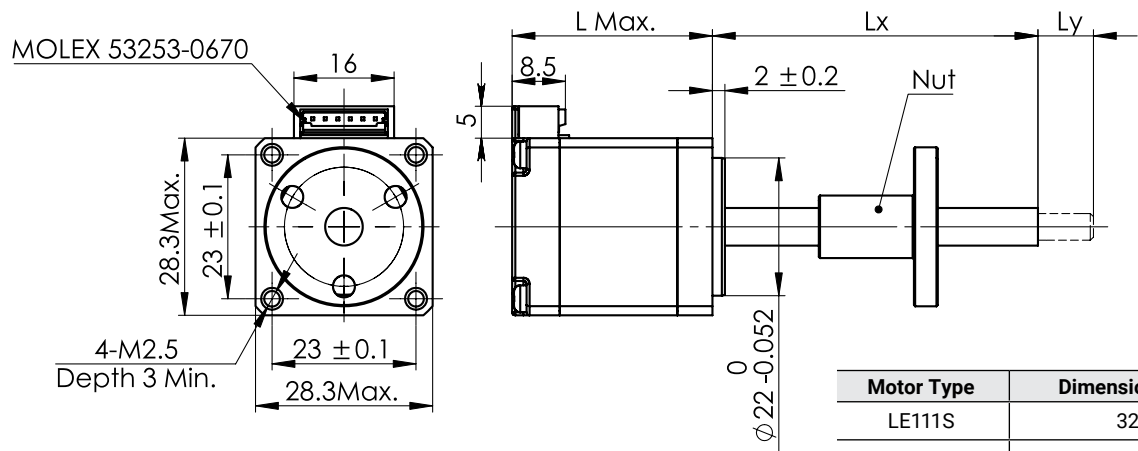
Triangular Anti-Backlash Nut BT1



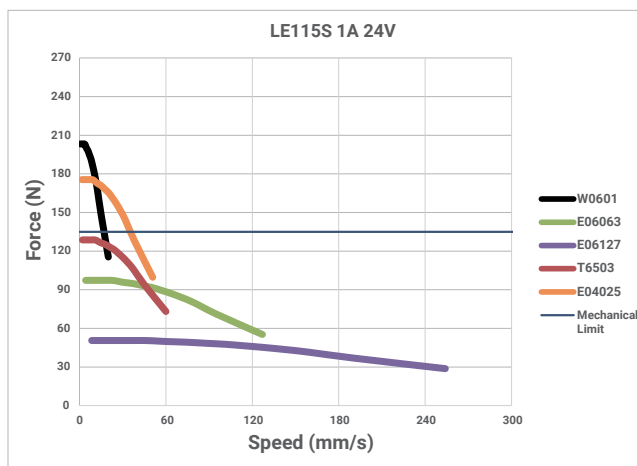
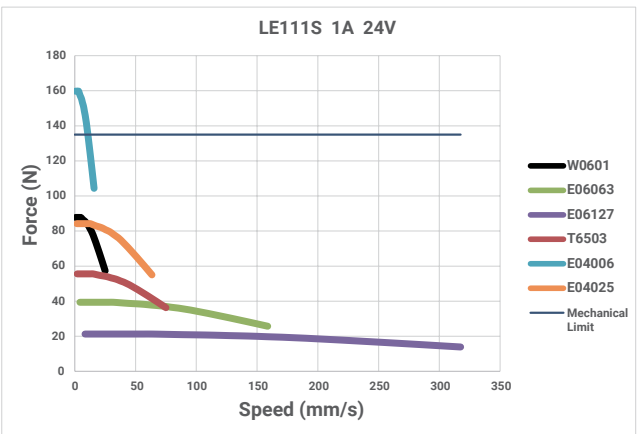
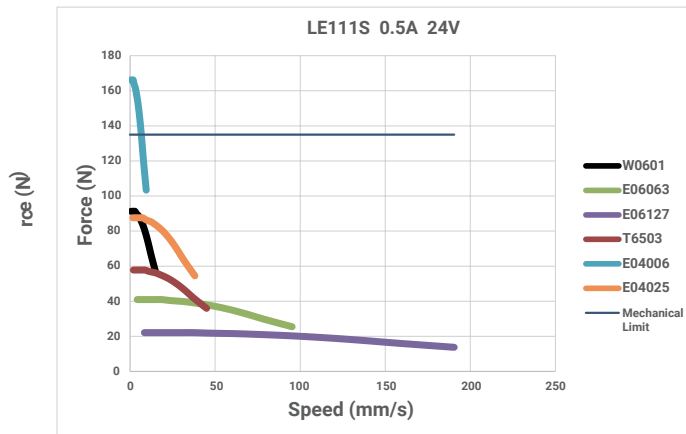
LE11 Series

Dimensional Information

UNIT:mm



Speed Force Reference Curves



Note:

1.Mechanical Limit Definition:

Since the motor output may exceed the force which the bearing can bear, so we take the motor bearing limit as the mechanical limit. However, linear motor fatigue and resultant life are determined by each customer's unique application. Load, speed, frequency, temperature, stability of guidance mechanism, etc., should all be considered before choosing a linear motor.

2.The curves are reference values obtained by calculation. The actual output should consider the customer's unique application, including speed, acceleration and deceleration, frequency, stability of guidance mechanism, etc.

LE14 Series

Phases	2
Step Accuracy	±5%
Approvals	RoHS
Operating Temp.	0°C~+50°C
Insulation Class	B(130°C)



Ordering Information

LE 14 1S - W0601 - 100 - AR1 - 0 - XXX

Lead Screw Motor Type Code

Code	Mating Motor
LE	External Nut Type

Frame Size Code

Code	Frame Size
14	35 mm

Motor Body Length Code

Code	Additional Options	Step Angle (°)
1A	28	0.9
1S	27	1.8
3S	35	

Lead Screw Type Code

Code	Nominal Diameter (mm)	Lead (mm)	Travel (mm)	
			Travel Per 0.9°	Travel Per 1.8°
W0601	6	1	0.0025	0.005
W0602		2	0.005	0.01
T6503	6.5	3	0.0075	0.015
T0801		1	0.0025	0.005
T08012		1.25	0.0031*	0.0063*
T0803		3	0.0075	0.015
T0804		4	0.01	0.02
T0805	8	5	0.0125	0.025
T0808		8	0.02	0.04
T0812		12	0.03	0.06
T0820		20	0.05	0.1

Code	Nominal Diameter		Lead Inch	Travel (mm)	
	Inch	mm		Travel Per 0.9°	Travel Per 1.8°
E06008			1/32	0.0020*	0.0039*
E06016			1/16	0.0040*	0.0080*
T06024	0.25	6.35	0.096	0.0061*	0.0122*
E06032			1/8	0.0079*	0.0159*
E06063			1/4	0.0159*	0.0318*
E06085			0.333	0.0211*	0.0423*
E06127			1/2	0.0318	0.0635

* Number is abbreviated

Note: Standard models are more readily available, see page 6 for standard models

Rated Current Code

XXX=X.XX(A)

Special Custom Type Code

Code	Nut Type
0	No End Machining
S	Lead Screw End Machining
E	Add Encoder
B	Add Brake
XX	Other Custom Type*

*For customization, please contact the manufacturer

Nut Type Code

Code	Nut Type	Mating Lead Screw	
AR1	Round Standard Nut	E06008	E06127
BR1	Round Anti-Backlash Nut	E06016	W0601
AT1	Triangle Standard Nut	T06024	M0602
BT1	Triangle Anti-Backlash Nut	E06032	T6503
		E06063	
		E06085	
AR3	Round Standard Nut	T0801	T0805
BR3	Round Anti-Backlash Nut	T08012	T0808
		T0803	T0812
AT3	Triangle Standard Nut	T0804	T0820
BT3	Triangle Anti-Backlash Nut		
CN	Custom Made Nut*		

*For customization, please contact the manufacturer

Length of Screw

###	Provided in 1 mm increments
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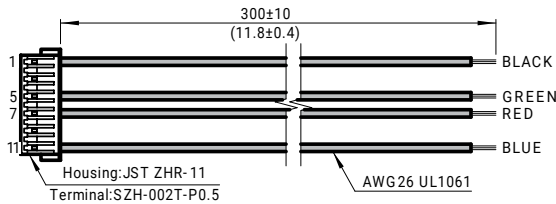
LE14 Series

Motor Technical Parameters

Motor Type Code	Motor Body Length (mm)	Step Angle (°)	Electrical Connection	Rated Current (Amps)
LE141A	28	0.9	Plug In Connector	0.6
LE141S	27	1.8	Plug In Connector	0.7
				1
LE143S	35		Plug In Connector	0.5
				0.75
				1
		1.5		

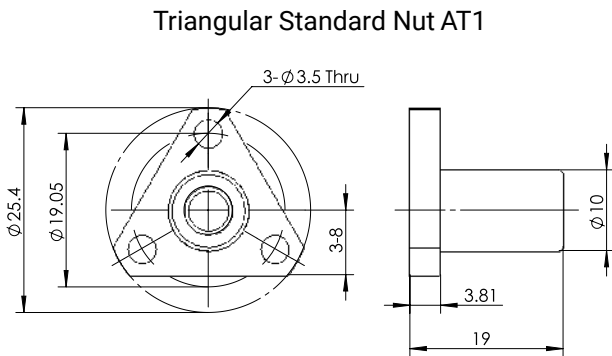
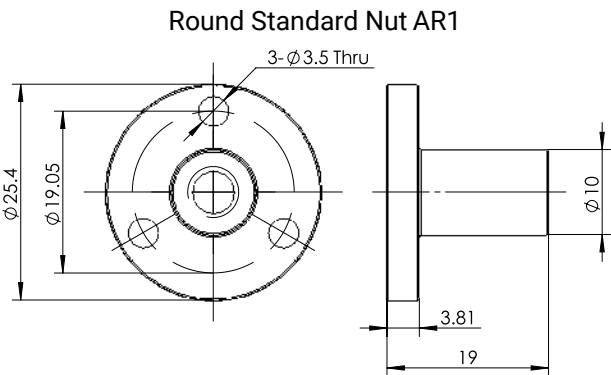
Mating Connector with Leads

4 Lead Part Number 4634 1402 04581



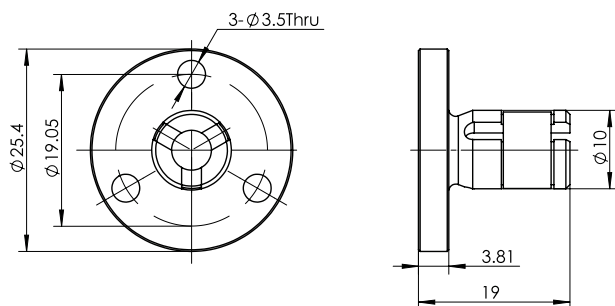
Nut Type

UNIT:mm

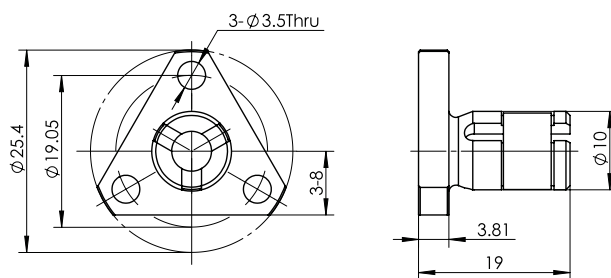


LE14 Series

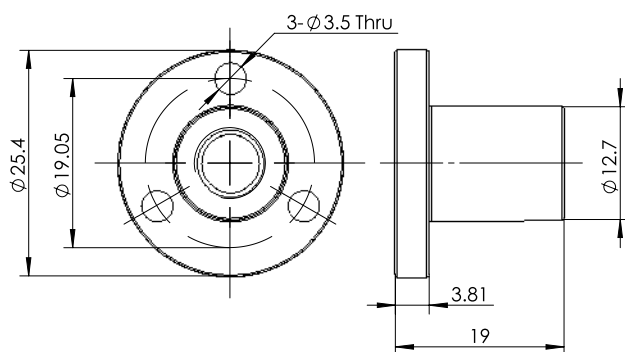
Round Anti-Backlash Nut BR1



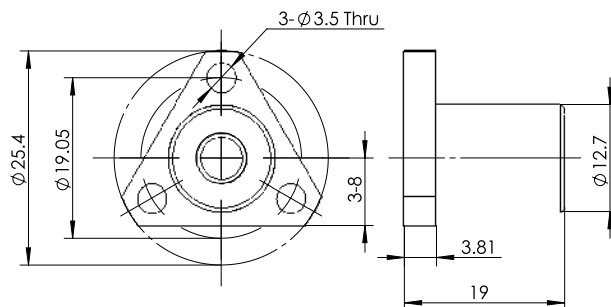
Triangular Anti-Backlash Nut BT1



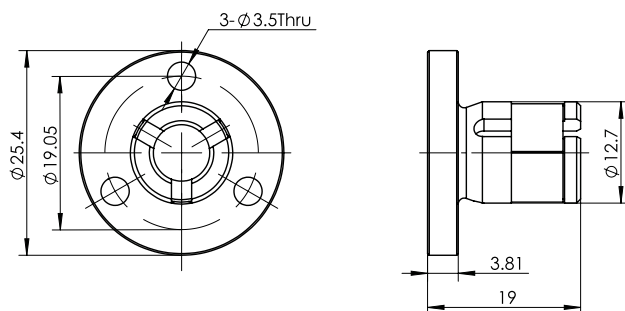
Round Standard Nut AR3



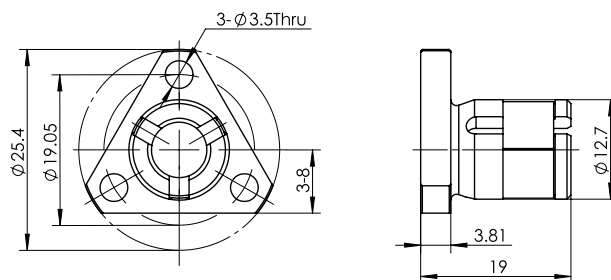
Triangular Standard Nut AT3



Round Anti-Backlash Nut BR3



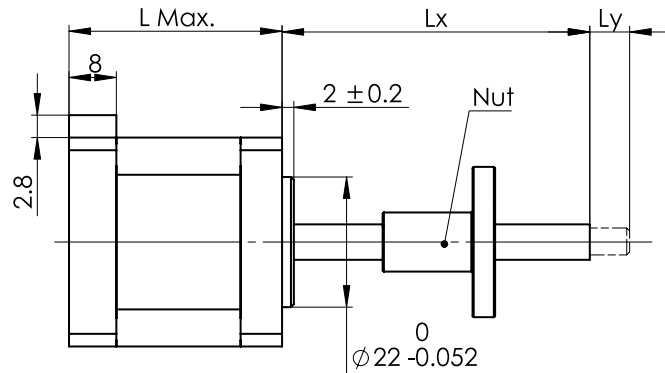
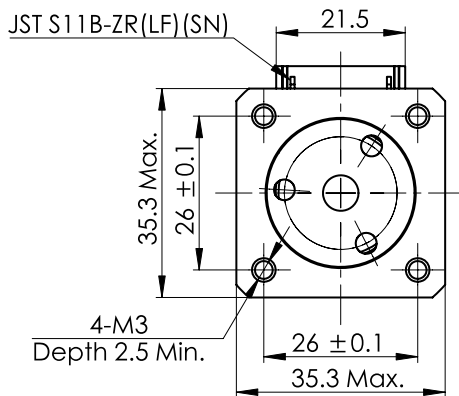
Triangular Anti-Backlash Nut BT3



LE14 Series

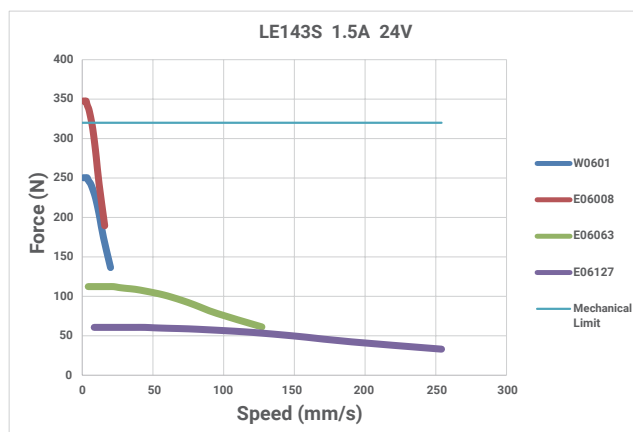
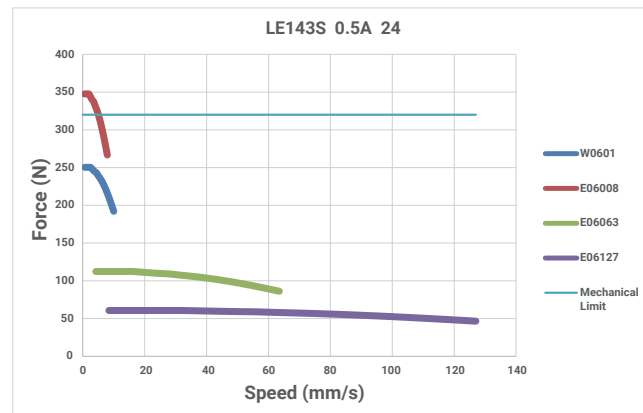
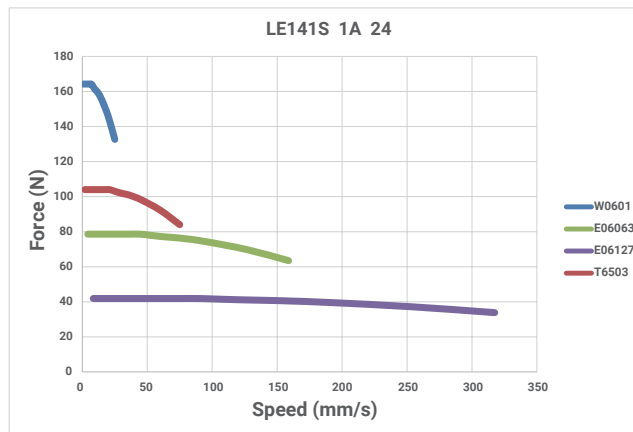
Dimensional Information

UNIT:mm



Motor Type	Dimension "L"
LE141A	28
LE141S	27
LE143S	35

Speed Force Reference Curves



Note:

1.Mechanical Limit Definition:

Since the motor output may exceed the force which the bearing can bear, so we take the motor bearing limit as the mechanical limit. However, linear motor fatigue and resultant life are determined by each customer's unique application. Load, speed, frequency, temperature, stability of guidance mechanism, etc., should all be considered before choosing a linear motor.

2.The curves are reference values obtained by calculation. The actual output should consider the customer's unique application, including speed, acceleration and deceleration, frequency, stability of guidance mechanism, etc.

LE17 Series

Phases	2
Step Accuracy	±5%
Approvals	RoHS
Operating Temp.	0°C~+50°C
Insulation Class	B(130°C)



Ordering Information

LE 17 2S - T0801 - 100 - AR1 - 0 - XXX

Lead Screw

Motor Type Code

Code	Mating Motor
LE	External Nut Type

Frame Size Code

Code	Frame Size
17	42 mm

Motor Body Length Code

Code	Additional Options	Step Angle (°)
4A	34	0.9
7S	20	1.8
4S	34	
2S	40	
6S	48	

Lead Screw Type Code

Code	Nominal Diameter (mm)	Lead (mm)	Travel (mm)	
			Travel Per 0.9°	Travel Per 1.8°
T0801	8	1	0.0025	0.005
T08012		1.25	0.0031	0.0063
T0803		3	0.0075	0.015
T0804		4	0.01	0.02
T0805		5	0.0125	0.025
T0808		8	0.02	0.04
T0812		12	0.03	0.06
T0820		20	0.05	0.01
M1001	10	1	0.0025	0.005
M1002		2	0.005	0.01
M1004		4	0.01	0.02
T10105		10.5	0.0263*	0.0525*

Code	Nominal Diameter		Lead Inch	Travel (mm)	
	Inch	mm		Travel Per 0.9°	Travel Per 1.8°
E06008	0.25	6.35	1/32	0.0020*	0.0039*
E06016			1/16	0.0040*	0.0080*
T06024			0.096	0.0061*	0.0122*
E06032			1/8	0.0079*	0.0159*
E06063			0.250	0.0159*	0.0318*
E06085			0.333	0.0211*	0.0423*
E06127	0.375	9.53	1/2	0.0318	0.0635
E09015			1/16	0.0040*	0.0079*
E09025			1/10	0.0064	0.0127
E09050			1/5	0.0127	0.0254
E09102			2/5	0.0254*	0.0508*

* Number is abbreviated

Rated Current Code

XXX=X.XX(A)

Special Custom Type Code

Code	Nut Type
0	No End Machining
S	Lead Screw End Machining
E	Add Encoder
B	Add Brake
XX	Other Custom Type*

*For customization, please contact the manufacturer

Nut Type Code

Code	Nut Type	Mating Lead Screw	
AR1	Round Standard Nut	E06008	E06085
BR1	Round Anti-Backlash Nut	E06016	E06127
AT1	Triangular Standard Nut	T06024	
BT1	Triangular Anti-Backlash Nut	E06032	E06063
AR2	Round Standard Nut	E09015	M1001
BR2	Round Anti-Backlash Nut	E09025	M1002
AT2	Triangular Standard Nut	E09050	M1004
BT2	Triangular Anti-Backlash Nut	E09102	T10105
AR3	Round Standard Nut	T0801	T0805
BR3	Round Anti-Backlash Nut	T08012	T0808
AT3	Triangular Standard Nut	T0803	T0812
BT3	Triangular Anti-Backlash Nut	T0804	T0820
CN	Custom Made Nut*		

*For customization, please contact the manufacturer

Length of Screw

Provided in 1 mm increments

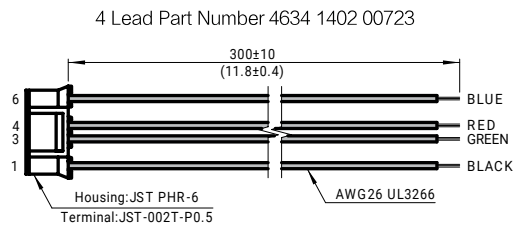
Note: Standard models are more readily available, see page 6 for standard models

LE17 Series

Motor Technical Parameters

Motor Type Code	Motor Body Length (mm)	Step Angle (°)	Electrical Connection	Rated Current (Amps)
LE174A	34	0.9	Plug In Connector	0.7
LE177S	20	1.8	Leads	1
LE174S	34	1.8	Plug In Connector	0.65
				1
				1.5
LE172S	40		Plug In Connector	1
				1.5
				2
LE176S	48		Plug In Connector	1
				1.5
				2

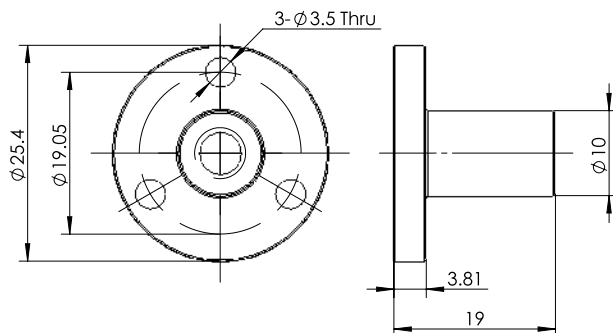
Mating Connector with Leads



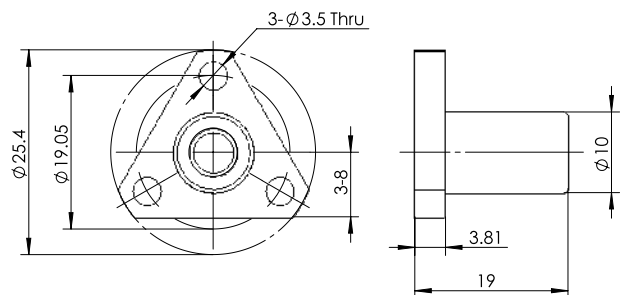
Nut Type

UNIT:mm

Round Standard Nut AR1

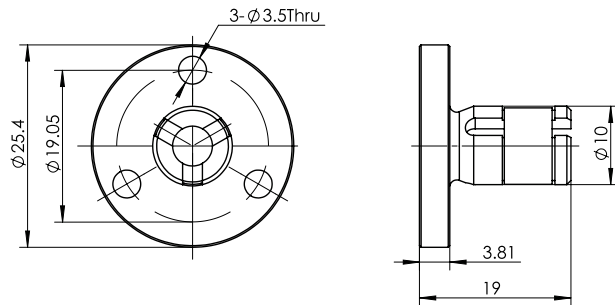


Triangular Standard Nut AT1

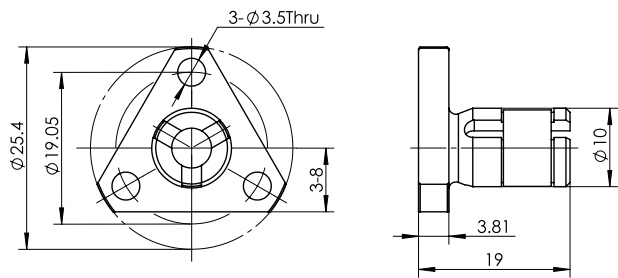


LE17 Series

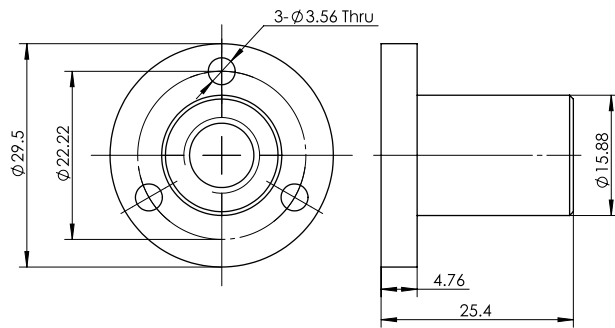
Round Anti-Backlash Nut BR1



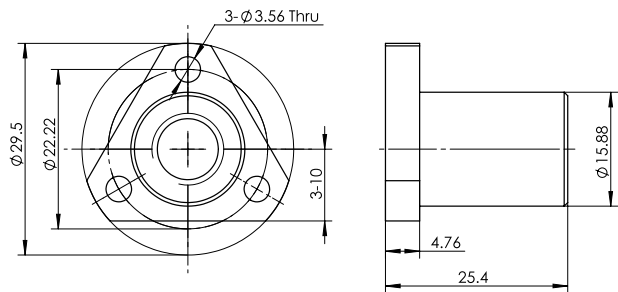
Triangular Anti-Backlash Nut BT1



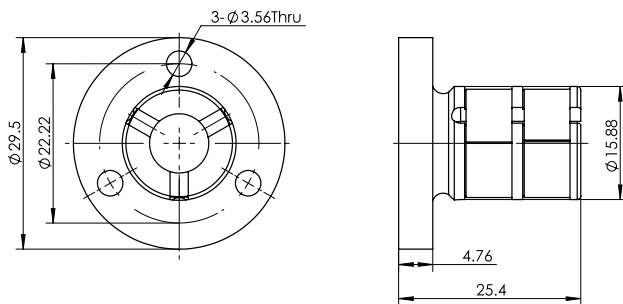
Round Standard Nut AR2



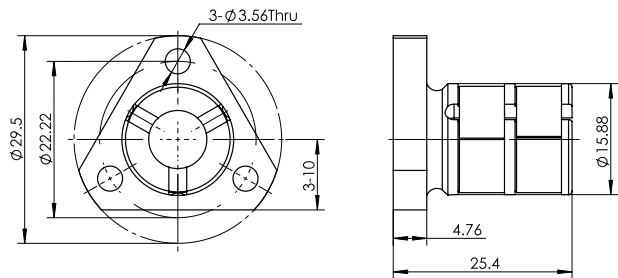
Triangular Standard Nut AT2



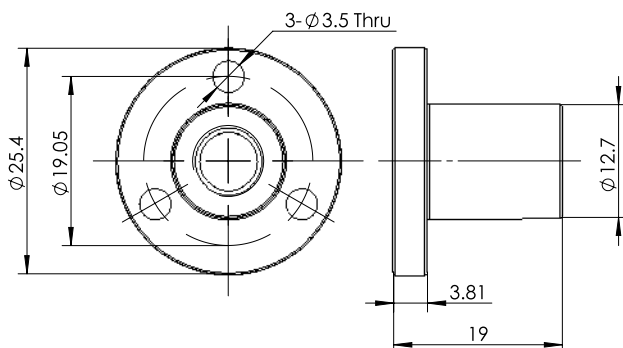
Round Anti-Backlash Nut BR2



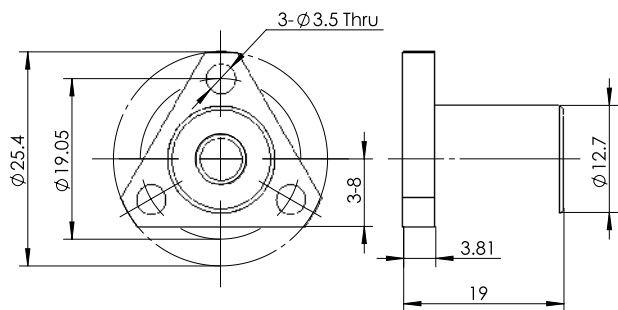
Triangular Anti-Backlash Nut BT2



Round Standard Nut AR3

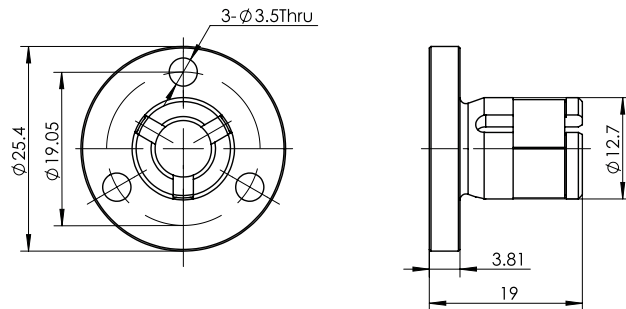


Triangular Standard Nut AT3

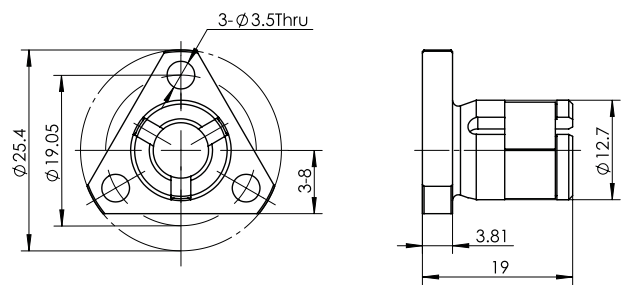


LE17 Series

Round Anti-Backlash Nut BR3

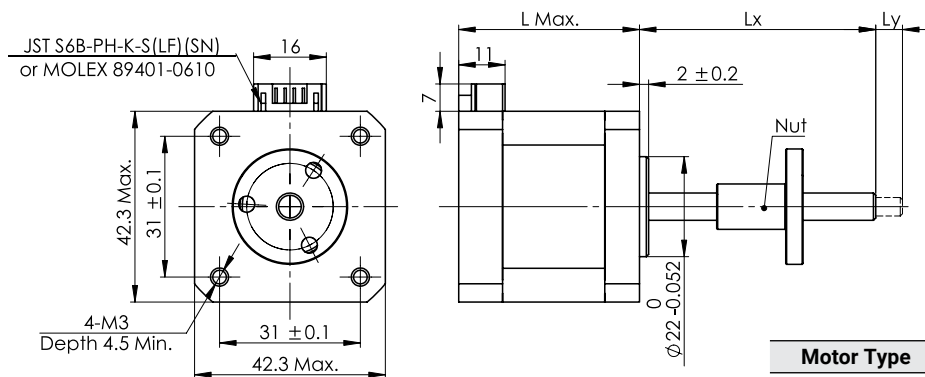


Triangular Anti-Backlash Nut BT3

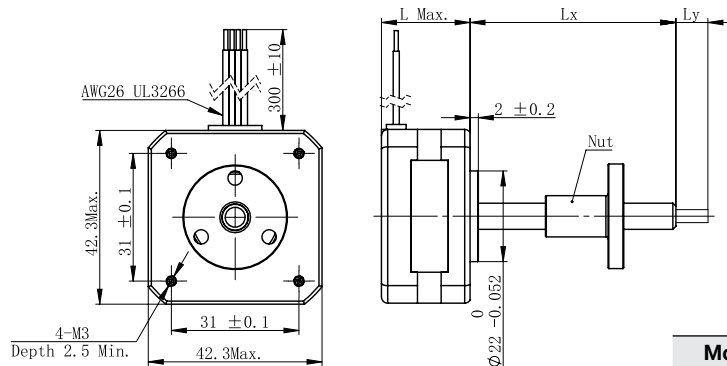


Dimensional Information

UNIT:mm



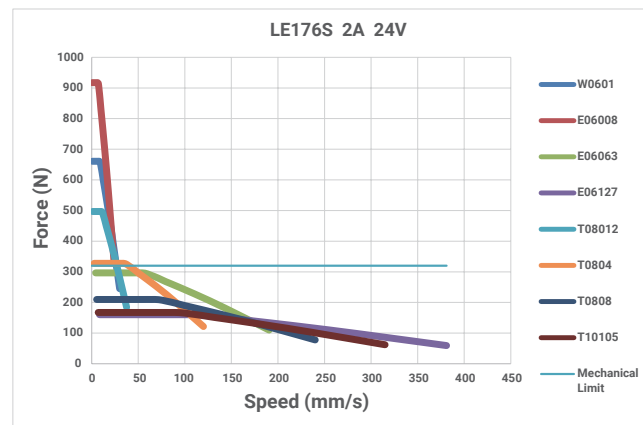
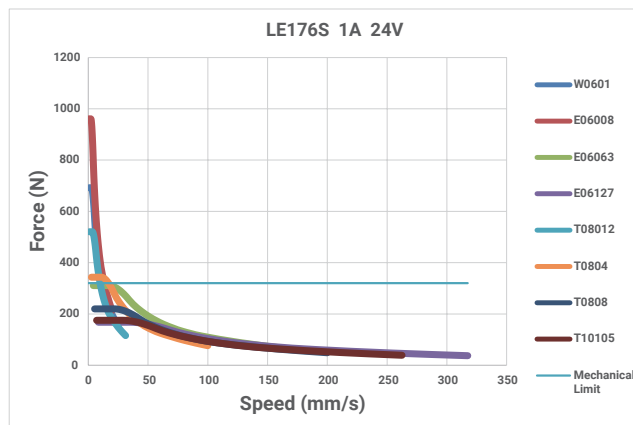
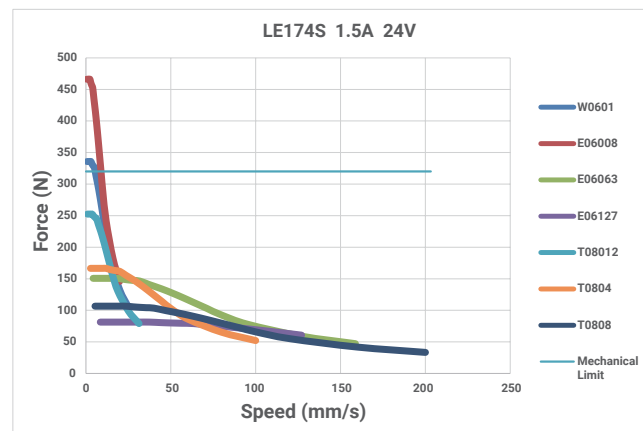
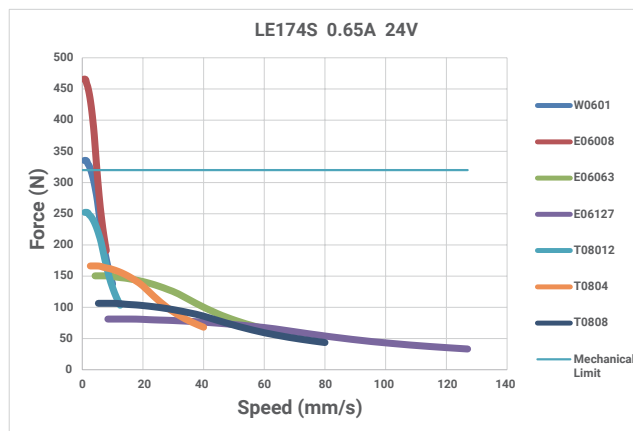
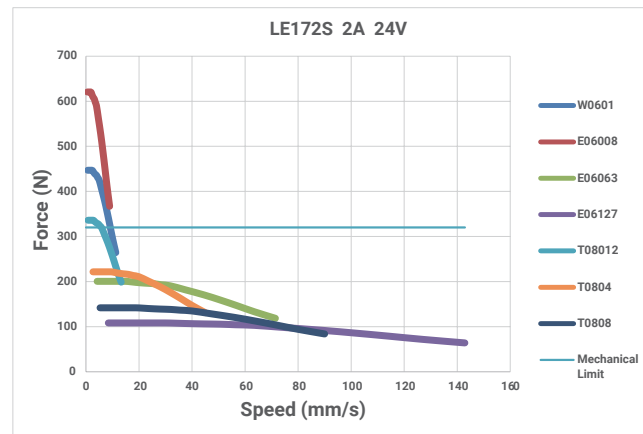
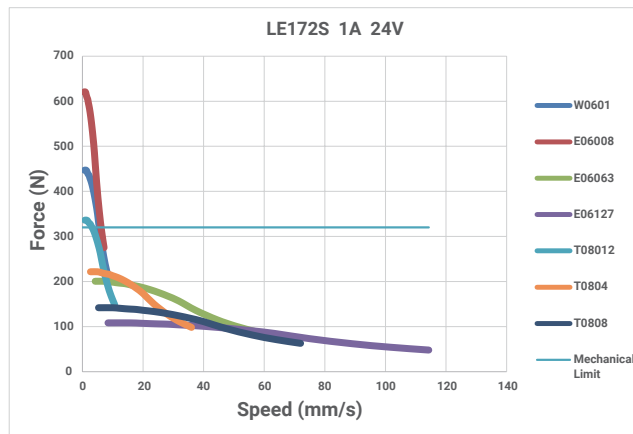
Motor Type	Dimension "L"
LE174A	34
LE174S	34
LE172S	40
LE176S	48



Motor Type	Dimension "L"
LE177S	20

LE17 Series

Speed Force Reference Curves



Note:

1. Mechanical Limit Definition:

Since the motor output may exceed the force which the bearing can bear, so we take the motor bearing limit as the mechanical limit. However, linear motor fatigue and resultant life are determined by each customer's unique application. Load, speed, frequency, temperature, stability of guidance mechanism, etc., should all be considered before choosing a linear motor.

2. The curves are reference values obtained by calculation. The actual output should consider the customer's unique application, including speed, acceleration and deceleration, frequency, stability of guidance mechanism, etc.

LE23 Series

Phases	2
Step Accuracy	±5%
Approvals	RoHS
Operating Temp.	0°C~+50°C
Insulation Class	B(130°C)



Ordering Information

LE 23 8S - M1001 - 100 - AR2 - 0 - XXX

Lead Screw

Motor Type Code

Code	Mating Motor
LE	External Nut Type

Frame Size Code

Code	Frame Size
23	57 mm

Motor Body Length Code

Code	Additional Options	Step Angle (°)
4S	45	1.8
8S	57	
AS	79	
ASP (Power Plus)	79	

Lead Screw Type Code

Code	Nominal Diameter (mm)	Lead (mm)	Travel (mm) Travel Per 1.8°
M1001	10	1	0.005
M1002		2	0.01
M1004		4	0.02
T10105	12	10.5	0.0525*
T1202		2	0.01
T1206		6	0.03
T1404	14	4	0.02

Code	Nominal Diameter Inch	Nominal Diameter mm	Lead Inch	Travel (mm) Travel Per 1.8°
E09015	0.375	9.53	1/16	0.0079*
E09025			1/10	0.0127*
E09050			1/5	0.0254*
E09102			2/5	0.0508*
E12254	0.472	11.99	1	0.1270

* Number is abbreviated

Note: Standard models are more readily available, see page 6 for standard models

Rated Current Code

XXX=X.XX(A)

Special Custom Type Code

Code	Nut Type
0	No End Machining
S	Lead Screw End Machining
E	Add Encoder
B	Add Brake
XX	Other Custom Type*

*For customization, please contact the manufacturer

Nut Type Code

Code	Nut Type	Mating Lead Screw	
AR1	Round Standard Nut	E06008	E06127
BR1	Round Anti-Backlash Nut	E06016	W0601
AT1	Triangular Standard Nut	T06024	M0602
BT1	Triangular Anti-Backlash Nut	E06032	T6503
		E06063	E06085
AR3	Round Standard Nut	T0801	T0805
BR3	Round Anti-Backlash Nut	T08012	T0808
AT3	Triangular Standard Nut	T0803	T0812
BT3	Triangular Anti-Backlash Nut	T0804	T0820
CN	Custom Made Nut*		

*For customization, please contact the manufacturer

Length of Screw

Provided in 1 mm increments

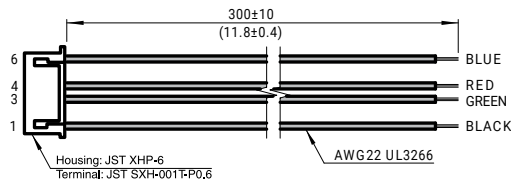
LE23 Series

Motor Technical Parameters

Motor Type Code	Motor Body Length (mm)	Step Angle (°)	Electrical Connection	Rated Current (Amps)
LE234S	45	1.8	Plug In Connector	1.5
				2.1
LE238S	57		Plug In Connector	1.5
				2.2
LE23AS	79		Plug In Connector	1.5
				3
LE23ASP (Power Plus)	79		Plug In Connector	3

Mating Connector with Leads

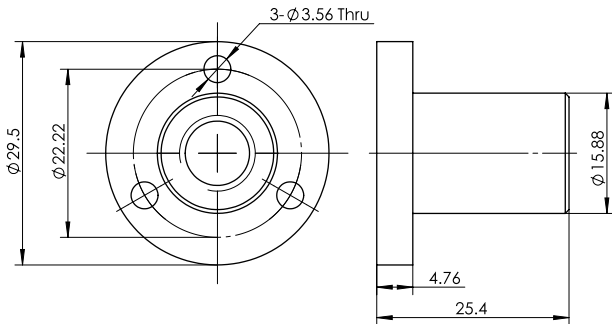
4 Lead Part Number 4634 1402 01891



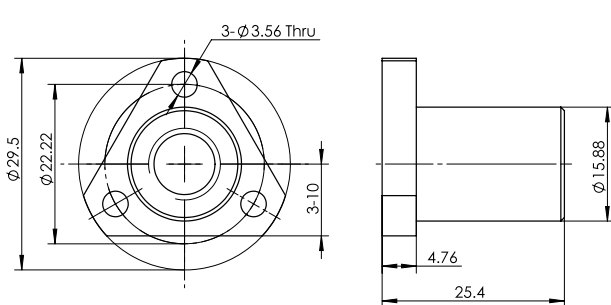
Nut Type

UNIT:mm

Round Standard Nut AR2

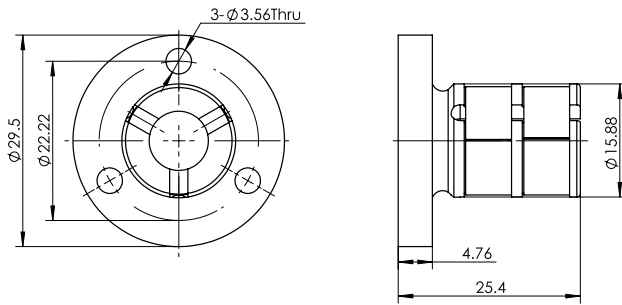


Triangular Standard Nut AT2

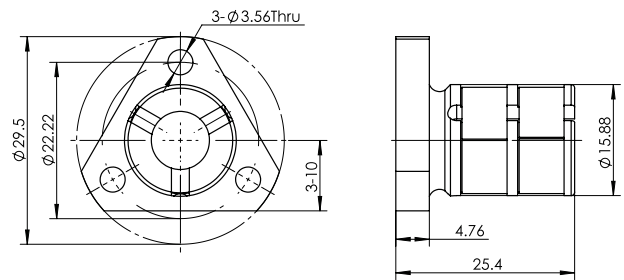


LE23 Series

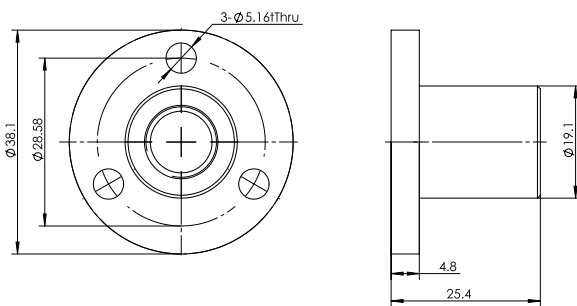
Round Anti-Backlash Nut BR2



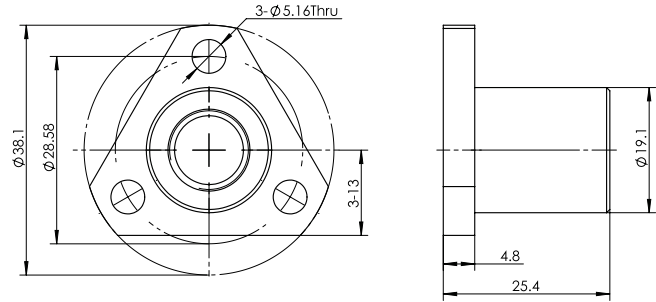
Triangular Anti-Backlash Nut BT2



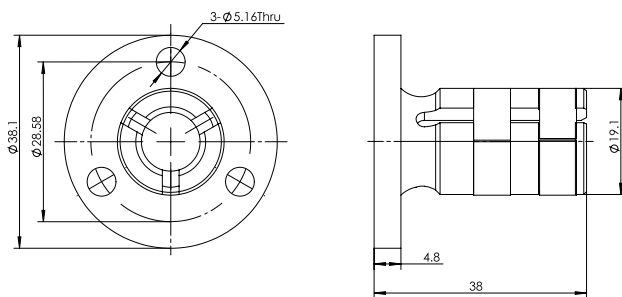
Round Standard Nut AR6



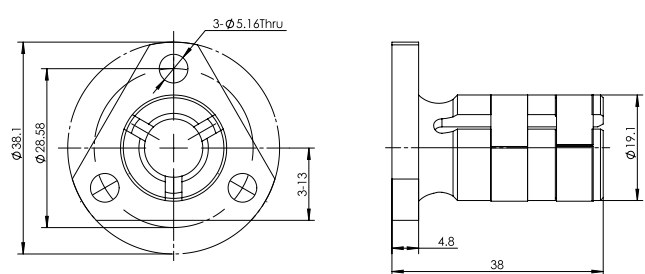
Triangular Standard Nut AT6



Round Anti-Backlash Nut BR4



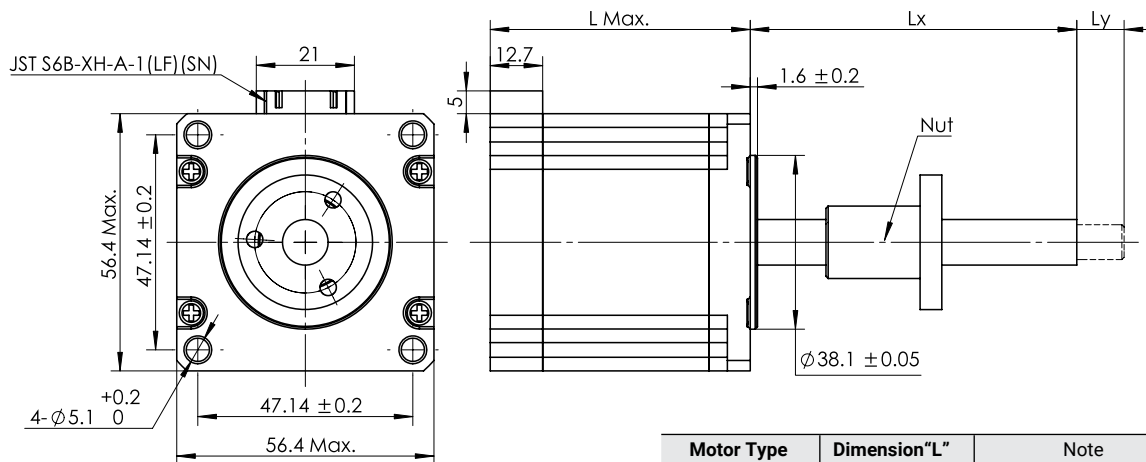
Triangular Anti-Backlash Nut BT4



LE23 Series

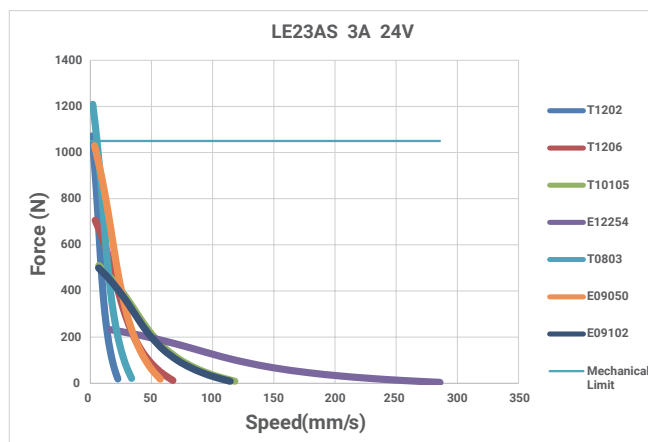
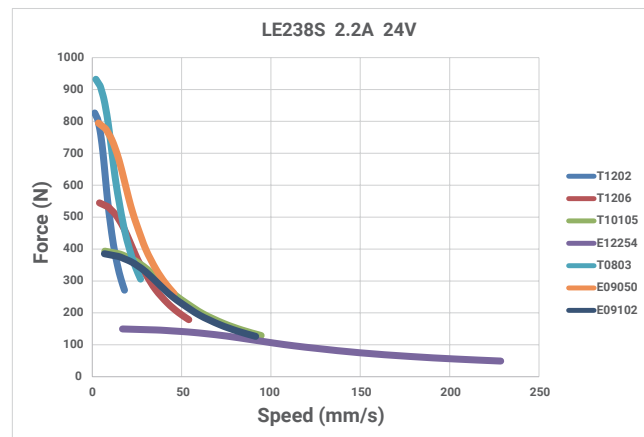
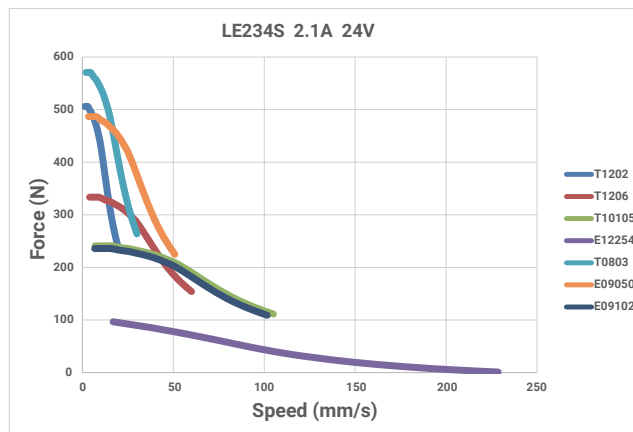
Dimensional Information

UNIT:mm



Motor Type	Dimension "L"	Note
LE234	45	Standard
LE238S	57	Standard
LE23AS	79	Standard
LE23ASP	79	Power Plus

Speed Force Reference Curves



Note:

1.Mechanical Limit Definition:

Since the motor output may exceed the force which the bearing can bear, so we take the motor bearing limit as the mechanical limit. However, linear motor fatigue and resultant life are determined by each customer's unique application. Load, speed, frequency, temperature, stability of guidance mechanism, etc., should all be considered before choosing a linear motor.

2.The curves are reference values obtained by calculation. The actual output should consider the customer's unique application, including speed, acceleration and deceleration, frequency, stability of guidance mechanism, etc.

Encoder Options

Suitable for applications that requiring feedback

Parameter

Mating Motor	Supply Voltage (VDC)			CPR	PPR	Output	
	Min.	Typ.	Max.				
LE08/11	4.5	5	5.5	400	1600	Single-ended Electrical / Differential Electrical	
LE14/17/23				1000	4000		



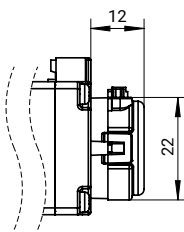
LE11 with encoder



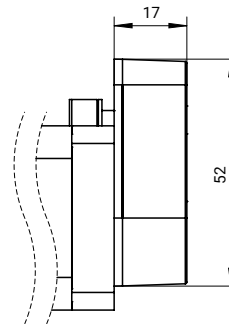
LE17 with encoder

Dimensional Information

Unit: mm



The encoder mating LE08/11

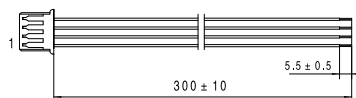


The encoder mating LE14/17/23

Mating Connector with Leads

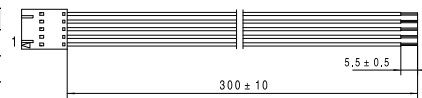
Single-Ended Electrical

Pin	Function	Color
1	+5VDC Power	Black
2	A Channel	Green
3	Ground	Red
4	B Channel	Blue



For the encoder mating LE08/11
Part Number: 4634140206404

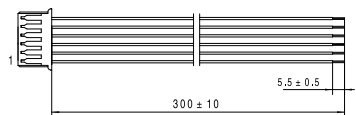
Pin	Function	Color
1	Ground	Black
2	Index	Green
3	A Channel	Red
4	+5VDC Power	Blue
5	B Channel	Yellow



For the encoder mating LE14/17/23
Part Number: 4634140206402

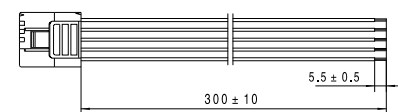
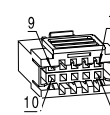
Differential Electrical

Pin	Function	Color
1	Ground	Black
2	A+Channel	Green
3	A- Channel	Red
4	Power	Blue
5	B+Channel	Yellow
6	B- Channel	White



For the encoder mating LE08/11
Part Number: 4634140206403

Pin	Function	Color
1	-	-
2	Ground	Black
3	I- Channel	Green
4	I+Channel	Red
5	A- Channel	Blue
6	A+Channel	Yellow
7	Power	White
8	-	-
9	B- Channel	Orange
10	B+Channel	Brown



For the encoder mating LE14/17/23
Part Number: 4634140206405

Brake Options

Parameter

Mating Motor	Supply Voltage (VDC)	Braking Torque (N·M)	Power (W)	Reaction Time (ms)	Insulation Grade
LE11	24	0.3	4.8	15	B
LE14	24	0.3	4.8	15	B
LE17	24	1.2	4.5	50	B
LE23	24	2.5	4.5	50	B

Note:

1. All the brakes with 280 mm leads
2. 12 VDC brake options are available, please consult our technical department for further information



LE11 with brake



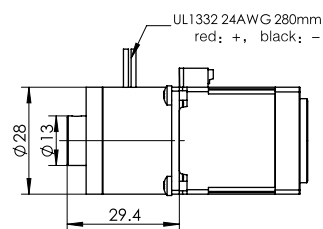
LE17 with brake



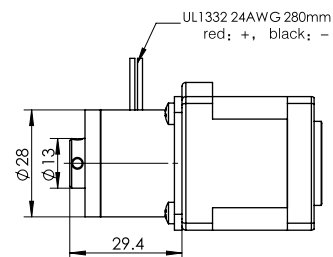
LE23 with brake

Dimensional Information

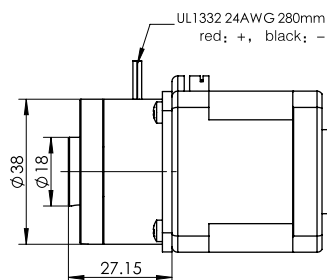
Unit: mm



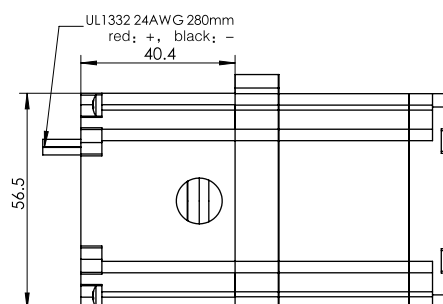
The brake mating LE11



The brake mating LE14



The brake mating LE17



The brake mating LE23

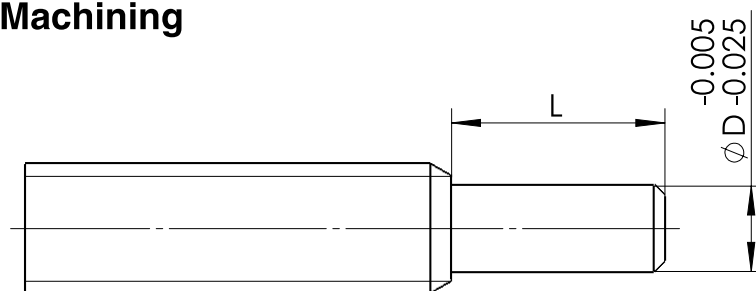
Optional Construction & Modifications

Typical product customization includes

- Lead screws: screw length, and screw end machining
- Nut: basic style, materials, lengths, and mounting

Note: Choosing a standard configuration can significantly reduce delivery times.

Lead screw End Machining



Lead Screw Nominal Diameter (mm)	Dimension	
	D(mm)	L(mm)
3~5	2.5	2.5
5.5~6.5	4	5
8~10	6	6
11~12	8	8
14	10	10

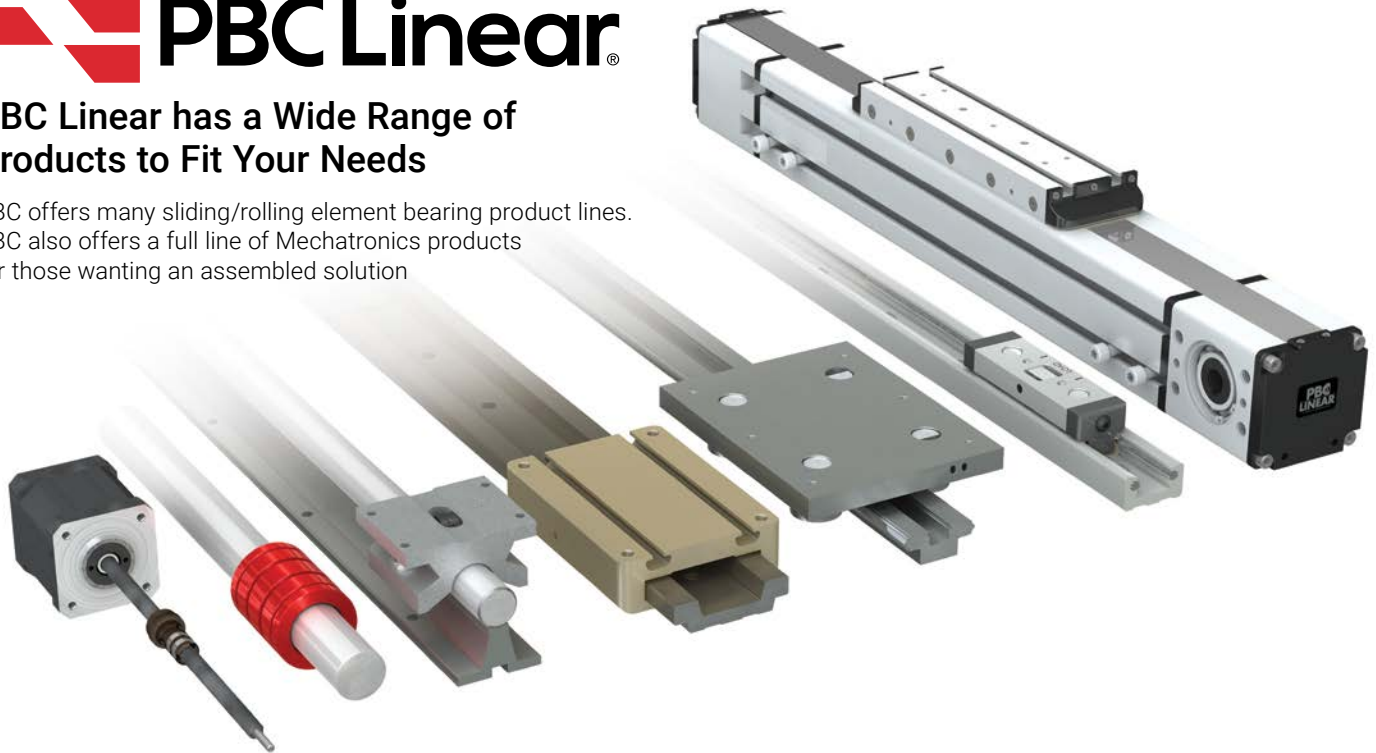


Additional Application Specific Technologies



PBC Linear has a Wide Range of Products to Fit Your Needs

PBC offers many sliding/rolling element bearing product lines. PBC also offers a full line of Mechatronics products for those wanting an assembled solution



PBC Technologies	Lead Screw	Simplicity	Roller Pillow Block	Glide Surface	Integral-V	Cam Roller	Mechatronics
Inexpensive	•	•	•	•	•	•	•
Low Maintenance	•	•	•	•			•
Compact Size	•			•			•
Low Noise	•	•					•
Multiple Configurations	•	•	•	•	•	•	•
Washdown Applications	•	•		•			•
Custom Design Support	•	•	•	•	•	•	•
Moderate to High Speed	•	•	•	•	•	•	•
Vacuum and Cleanroom Applications	•	•		•			•
Food Processing	•	•	•	•			
Ease of Installation	•				•	•	•



PBC Linear Worldwide Headquarters

6402 E. Rockton Road
Roscoe, Illinois 61073
USA
Tel: +1.815.389.5600
Toll-Free: +1.800.962.8979
Fax: +1.815.389.5790

sales@pbclinear.com
pbclinear.com

PBC Linear Europe GmbH European Headquarters

Bonner Straße 363
40589 Duesseldorf
Germany
Tel: +49 211 545590 20
Fax: +49 211 545590 39

info@pbclinear.eu
pbclinear.eu

PBC-MOONS China Headquarters

168 Mingjia Road, Minhang District,
Shanghai 201107,
P.R. China
Tel: +86 21 52634688
Fax: +86 21 52634098

info@moons.com.cn
www.moons.com.cn

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