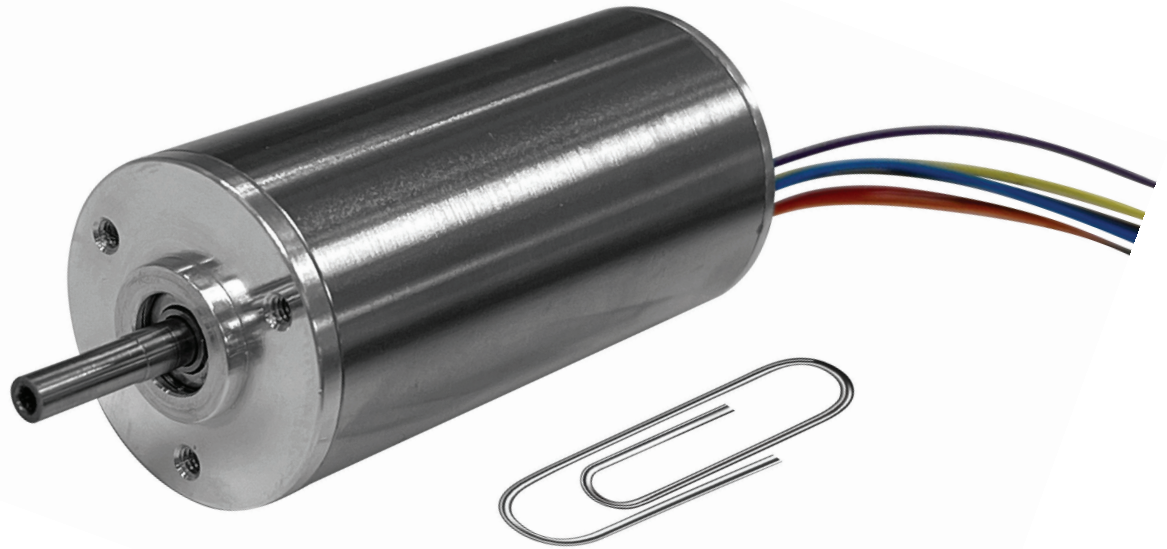


Miniature Brushless DC Motors PerformeX SL09 Series

High Speed, High Performance BLDC Motors



Patented technology in Allied Motion's PerformeX series enables these miniature slotless brushless motors to deliver up to double the performance of equivalently-sized motors.

The PerformeX Series was designed specifically to power precision instruments such as surgical handpieces and similar medical and dental power tools; however, they are also an ideal choice for any application that requires a small yet powerful, high speed BLDC motor, such as small high speed spindles, machine automation, or robotics.

Features & Benefits

- Size 9 (.9" dia) high performance brushless DC motor for surgical handpieces
- Double the performance of same sized competitive units
- Available options include planetary gearhead and autoclavability
- Size 9 (22 mm) diameter accommodates a wide range of handpiece designs
- Standard 24 and 48 VDC windings
- High speed capability up to 100,000 RPM
- High Km values mean high torque density and high performance
- Slotless design for smooth cog-free torque output
- Precision ball bearings for long life and low audible noise
- Hall-effect feedback as standard
- Grade-1, 2-plane balanced rotor

Options & Accessories

- Planetary gearhead (5:1, 25:1)
- Autoclavable version (minimum of 1000 autoclave cycles)
- Shaft seals
- Custom winding designs
- Custom shaft, cabling, materials designs

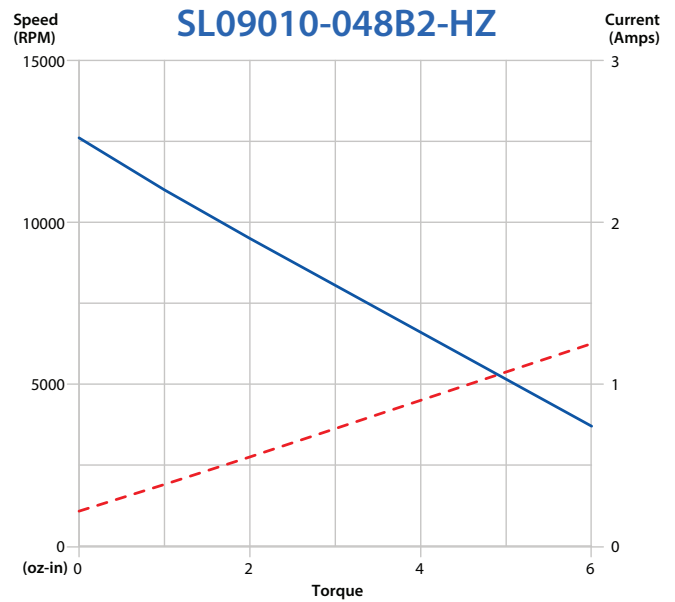
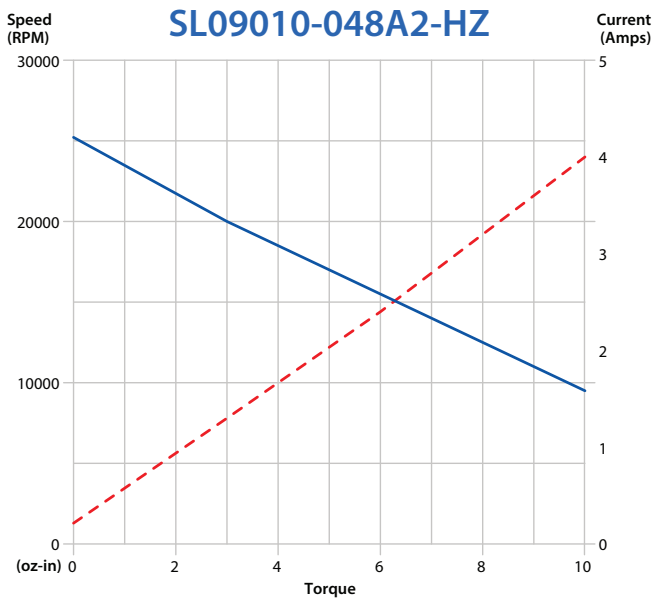
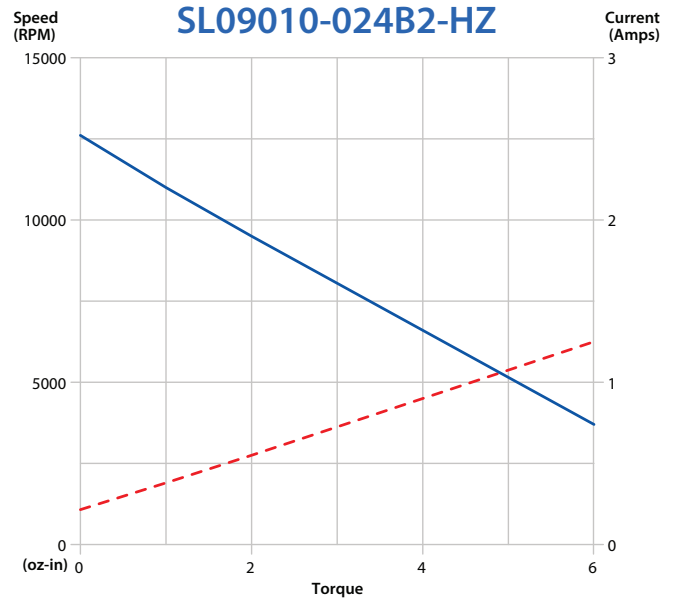
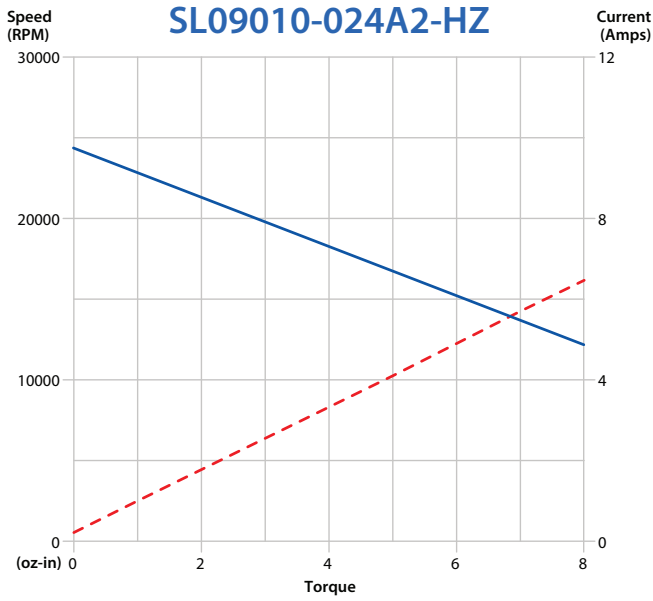
PerformeX SL09 Series – 24 mm Stack Length – Specifications

	UNIT	MODEL			
		SL09010-024A2-HZ	SL09010-024B2-HZ	SL09010-048A2-HZ	SL09010-048B2-HZ
DC Input Voltage	VDC	24 VDC		48 VDC	
Continuous Torque, Max	oz-in	2.783	2.735	2.735	2.732
Continuous Torque w/Heat Sink	oz-in	3.092	3.039	3.039	3.036
Peak Torque, Max	oz-in	16.741	8.364	16.733	8.347
Motor Constant	ozin/sqrt.w	1.153	1.134	1.134	1.133
Electrical Time Constant	mS	0.201	0.194	0.194	0.194
Mechanical Time Constant	mS	5.826	6.029	6.028	6.041
Thermal Resistance	°C/W	13.00	13.00	13.00	13.00
Thermal Resistance w/Heat Sink	°C/W	11.00	11.00	11.00	11.00
Damping Constant	oz-in/Krpm	9.84E-04	9.50E-04	9.51E-04	9.48E-04
Friction Torque	oz-in	0.250	0.250	0.250	0.250
Rotor Inertia	oz-in-sec ²	5.73E-05	5.73E-05	5.73E-05	5.73E-05
Weight	oz	5.085	5.085	5.085	5.085
Length	Inch	2.187	2.187	2.187	2.187
Continuous Current, Max	Amps	2.189	1.112	1.112	0.555
Continuous Current w/Heat Sink	Amps	2.432	1.236	1.236	0.617
Max. Peak Current	Amps	13.169	3.403	6.806	1.698
No-Load Current	Amps	0.235	0.212	0.235	0.212
Torque Constant	oz-in/A	1.271	2.458	2.459	4.917
No-Load Speed	RPM	24,375	12,608	25,216	12,608
Voltage Constant	V/kRPM	0.94	1.818	1.818	3.636
Resistance (ph-ph)	Ohms	1.215	4.702	4.702	18.851
Inductance (@1kHz)	mH	0.244	0.913	0.913	3.652
Max. Winding Temp	°C (°F)	150 (302)	150 (302)	150 (302)	150 (302)

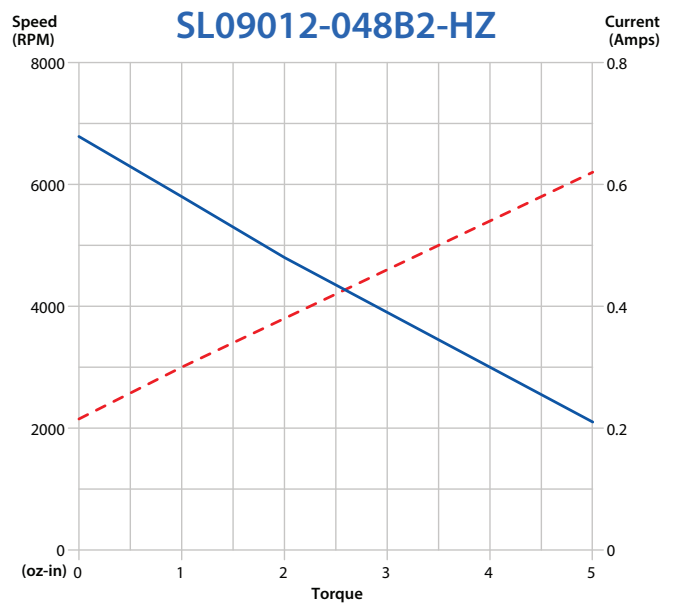
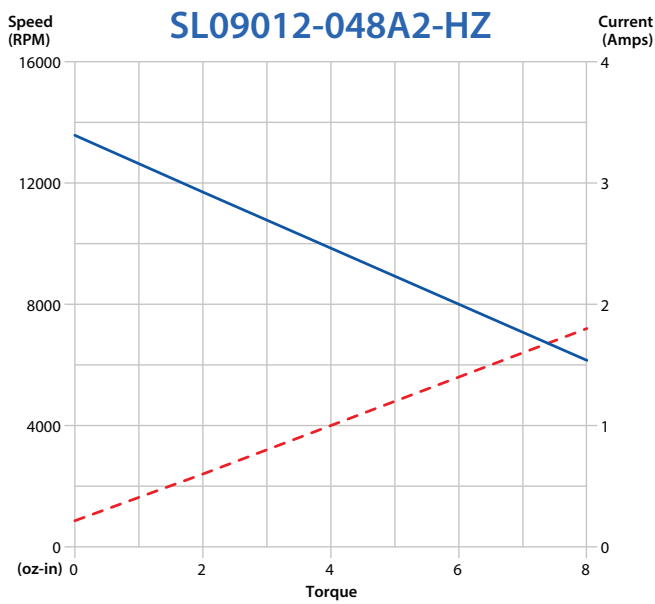
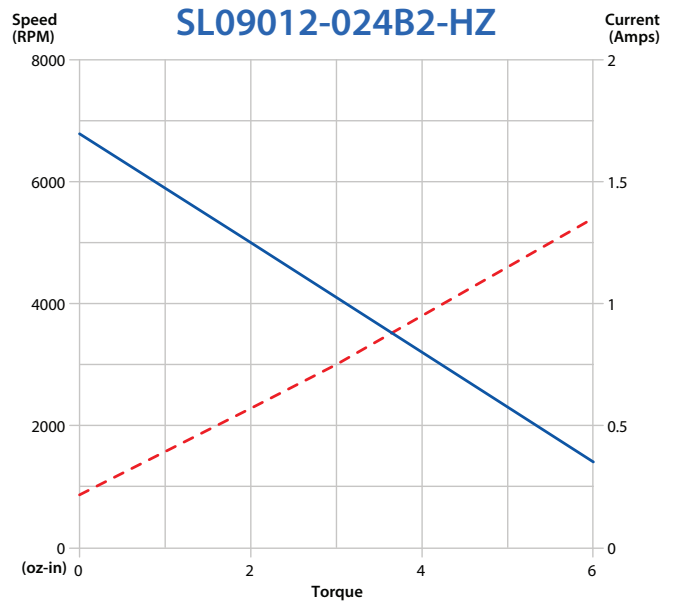
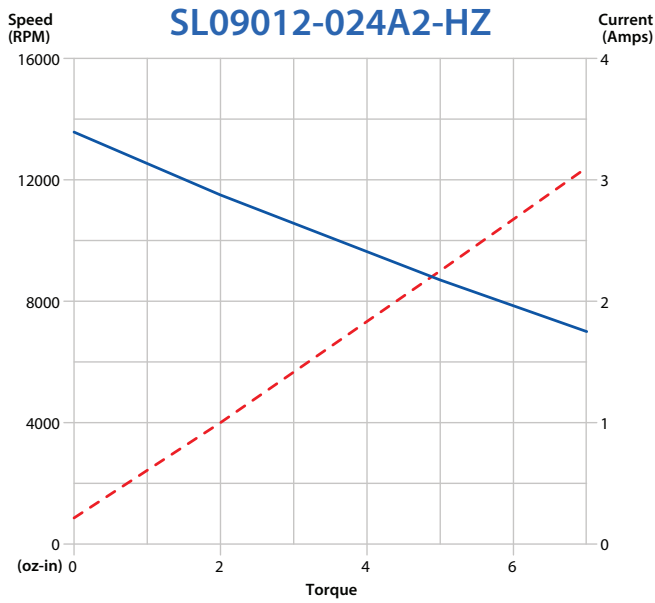
PerformeX SL09 Series – 30 mm Stack Length – Specifications

	UNIT	MODEL			
		SL09012-024A2-HZ	SL09012-024B2-HZ	SL09012-048A2-HZ	SL09012-048B2-HZ
DC Input Voltage	VDC	24 VDC		48 VDC	
Continuous Torque, Max	oz-in	3.740	3.737	3.737	3.737
Continuous Torque w/Heat Sink	oz-in	4.156	4.152	4.152	4.152
Peak Torque, Max	oz-in	15.317	7.638	15.276	7.621
Motor Constant	ozin/sqrt.w	1.479	1.477	1.477	1.475
Electrical Time Constant	mS	0.216	0.215	0.215	0.215
Mechanical Time Constant	mS	4.076	4.088	4.088	4.097
Thermal Resistance	°C/W	12.00	12.00	12.00	12.00
Thermal Resistance w/Heat Sink	°C/W	10.00	10.00	10.00	10.00
Damping Constant	oz-in/Krpm	1.62E-03	1.61E-03	1.61E-03	1.61E-03
Friction Torque	oz-in	0.250	0.250	0.250	0.250
Rotor Inertia	oz-in-sec ²	6.59E-05	6.59E-05	6.59E-05	6.59E-05
Weight	oz	5.705	5.705	5.705	5.705
Length	Inch	2.427	2.427	2.427	2.427
Continuous Current, Max	Amps	1.637	0.818	0.818	0.410
Continuous Current w/Heat Sink	Amps	1.819	0.909	0.909	0.455
Max. Peak Current	Amps	6.706	1.672	3.345	0.834
No-Load Current	Amps	0.212	0.191	0.212	0.191
Torque Constant	oz-in/A	2.284	4.567	4.567	9.134
No-Load Speed	RPM	13,572	6,786	13,573	6,786
Voltage Constant	V/kRPM	1.689	3.377	3.377	6.754
Resistance (ph-ph)	Ohms	2.386	9.567	9.567	38.354
Inductance (@1kHz)	mH	0.515	2.060	2.060	8.242
Max. Winding Temp	°C (°F)	150 (302)	150 (302)	150 (302)	150 (302)

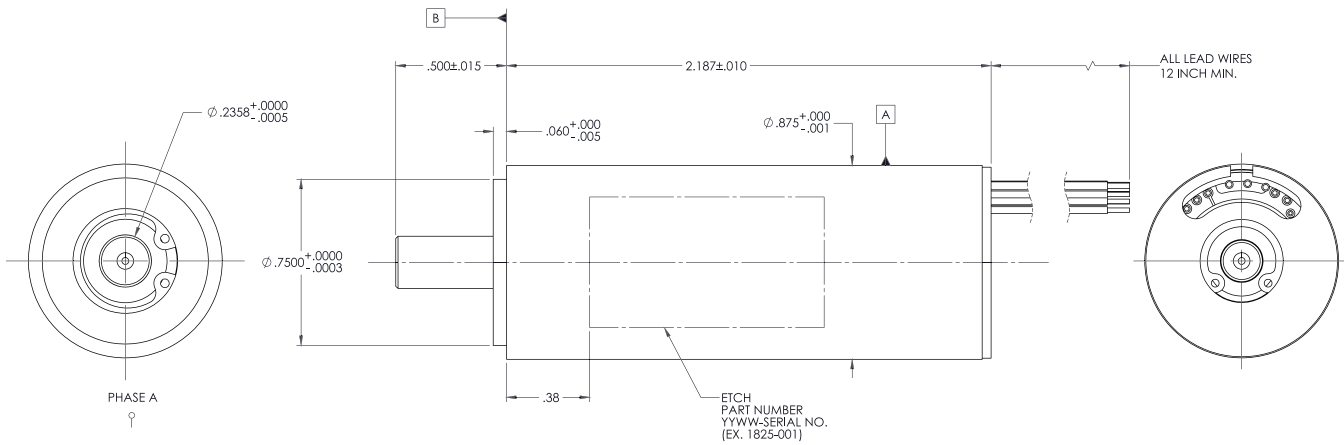
PerformeX SL09 Series – 24 mm Stack Length - Performance



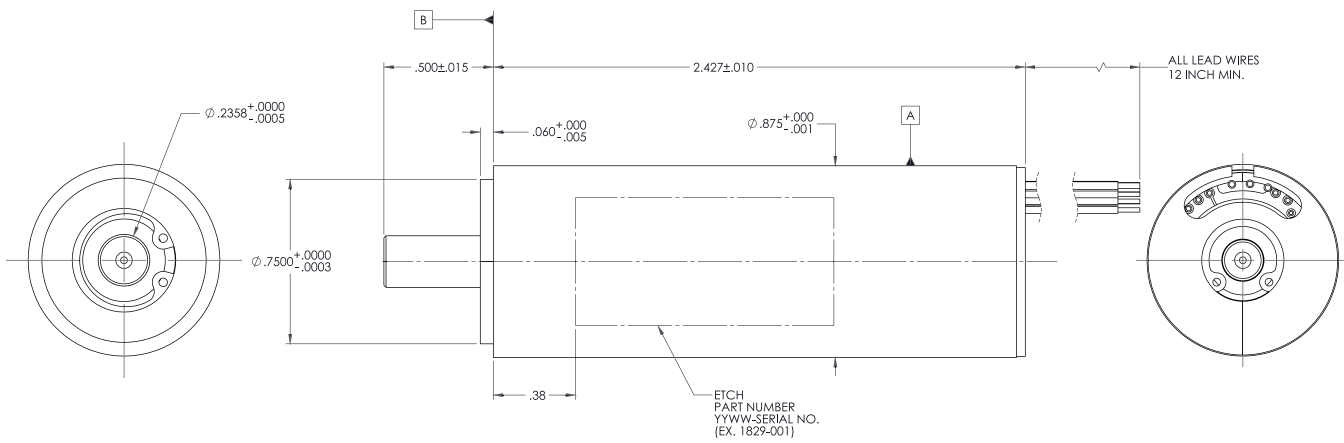
PerformeX SL09 Series – 30 mm Stack Length - Performance



PerformeX SL09 Series – 24 mm Stack Length - Dimensions (mm)



PerformeX SL09 Series – 30 mm Stack Length - Dimensions (mm)



Allied Motion Solution Centers

Allied Motion Solution Centers provide support to customers around the world from five geographically-strategic locations. Each facility is staffed by experienced application engineers and customer service teams to assist you with all aspects of your motion control needs. We also have a global network of factory-trained Allied Motion Sales Partners to serve you. For contact information on the location nearest you, please see below or visit our website.

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