

# KinetiMax Brushless DC Motors with Integrated Drive

*24 to 69 mm diameter, 5 to 355 mNm continuous torque, 3 to 110 Watts output*



Allied Motion's KinetiMax series of brushless DC motors, along with the BL70, are brushless DC motors featuring integrated drive electronics. Available in six diameters with rated output power up to 110 W, these motors are easy to install due to the electronics being integrated directly into the motor.

Featuring greater inertia and higher torque, which is inherent in outer-rotor designs, minimize cogging torque and maximize smoothness. High quality components ensure a reliable operating life of at least 20,000 hours.

The brushless motor design combined with integrated drive electronics make these motors ideal for small pumps, fans, blowers, laser scanners and instruments.

## Features & Benefits

- Brushless DC motors with integrated drive electronics
- Robust ball-bearing system ensuring a long life of 20,000 hours
- 6, 12, 24 or 42 VDC winding choice
- Two, four and five wire versions available
- Protection against voltage reversal
- Low EMI – complies with EN 55014-1/2, 61000-6-1/3 (KinetiMax)/ EN 55011, EN 55022, EN 50082-1 (BL70)
- Protected against thermal overload with automatic recovery

## Options & Accessories

- Customized shaft
- Dual shaft versions, with front and back shaft
- Customized mounting flange
- Custom leads and connector configurations
- Special winding configurations
- Encoder and/or gearbox

## Typical Applications

- Actuators
- Agriculture AGV
- Conveyor belt
- Document and package handling
- Medical equipment
- Small (membrane, gear and peristaltic) pumps
- Small high-performance fans



Outer rotor motors



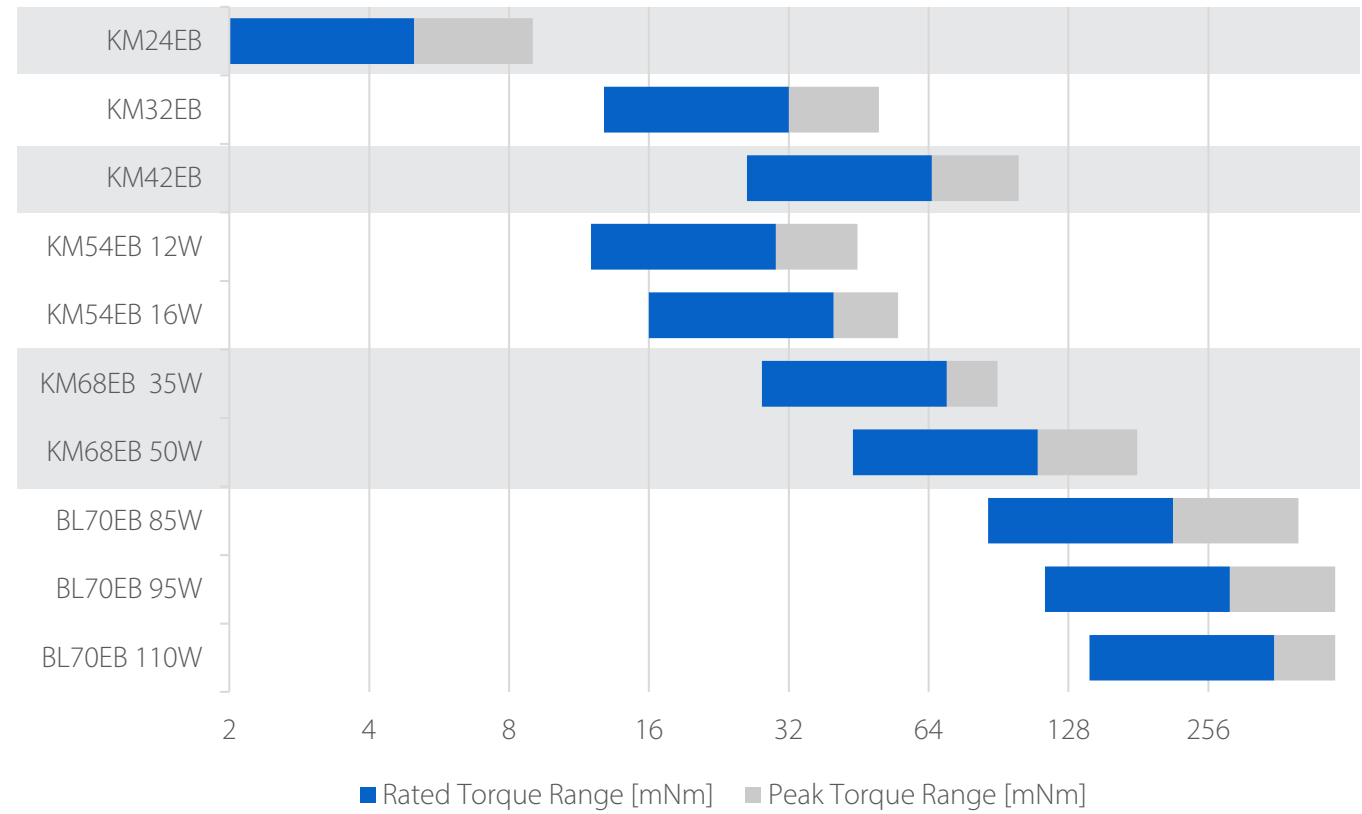
Inner rotor motors

Specifications



		KM24EB	KM32EB	KM42EB
Motor voltage	Volt	6 - 24	12 - 24	12 - 24
Rated Output Power	Watt	2.2 - 2.7	12 - 16	29 - 32
Rated Speed	RPM	4300	4750	4300
Rated Torque	mNm	5 - 6	32	65 - 70
Peak Torque	mNm	7 - 9	40 - 50	72 - 100
Rated Current	A	0.23 - 0.75	0.92 - 1.42	1.75 - 3.50
No load Speed (@ nominal supply voltage)	RPM	7150	6000	5300
Rotor Inertia (x10-6)	kgm <sup>2</sup>	0.77	4.7	17.5
Operating Temperature Range	°C (°F)	0 - 90 (32 - 194)	0 - 90 (32 - 194)	0 - 90 (32 - 194)
Weight	g	30	125	225
Motor diameter (D)	mm	24	32	42
Motor length (L)	mm	26.3	42.3	53.0
Shaft diameter (d)	mm	3	4	6

Performance Comparison



Specifications

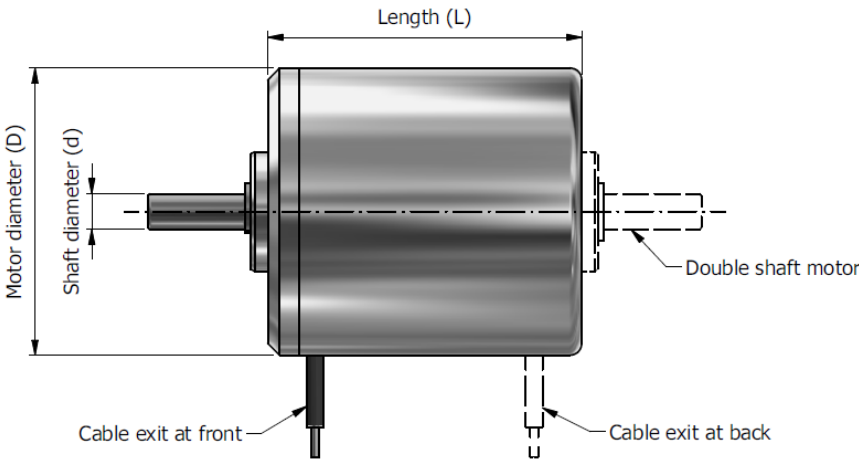


KM54EB		KM68EB		BL70EB				
12 - 24		24		24 - 42			Volt	Motor voltage
12	16	35	50	85	95	110	Watt	Rated Output Power
3800	3900	3650	3750	3800	3200	3000	RPM	Rated Speed
30	40	70	110 - 170	215	285	355	mNm	Rated Torque
45	55	90	120 - 180	300 - 400	350 - 480	380 - 480	mNm	Peak Torque
0.8 - 1.45	1.05 - 1.6	2	3	2.7 - 4.3	3.2 - 5.0	3.6 - 5.5	A	Rated Current
6200	6100	6000	6000	4900	3950	3700	RPM	No load Speed (@ nominal VCC)
22	31	75	120	30	40	50	kgm <sup>2</sup>	Rotor Inertia (x10-6)
0 - 90 (32 - 194)		0 - 70 (32 - 158)		0 - 90 (32 - 194)			°C (°F)	Operating Temperature Range
200	250	450	550	1000	1300	1600	g	Weight
54		68		69			mm	Motor diameter (D)
30.4	37.3	49.1	62.1	95	109	123	mm	Motor length (L)
6	6	6	6	9	9	9	mm	Shaft diameter (d)

Series options

	KM24EB	KM32EB	KM42EB	KM54EB	KM68EB	BL70EB
Custom shaft	✓	✓	✓	✓	✓	✓
Custom mounting plate	✓	✓	✓	✓	✓	✓
Rear shaft	—	✓	✓	—	✓	—
Encoder	—	✓	✓	—	✓	—
Gearbox	—	✓	✓	✓	✓	✓

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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