



FLAT MOTION External BLDC motors are ideal for applications where space is limited and include compact rotor designs that can operate continuously at very high speeds. They have an open body design for better passive heat dissipation and use Hall sensor technology with multi-pole cables for easy control. They are lightweight, have low power consumption, and a long service life.

COMPACT AND POWERFUL

FLAT MOTION External BLDC Motors are uniquely designed for applications that require a lot of power in a limited space. Their flat profile results in the same output with better torque characteristics compared to internal rotor motors and they include up to 16 poles for quiet operation at low speeds. Customized windings or shaft modifications are also possible.

EASY CONTROL

FLAT MOTION External BLDC motors are available in 32mm, 45mm, and 60mm sizes. Their compact configurations include multiple pole magnets and result in smooth operation and low noise. Easy control is made with cables using Hall sensors as external rotor motors and they offer plenty of space for internal connections. The digital pulse signal control and high torsional strength hollow shaft design result in optimal performance and operational control.

LONG LIFE EXPECTANCY

Each motor's simple structure has no slip ring or brush and electronic commutation allows for accurate speed control, a reduced thermal loss, easy maintenance, and a longer service life.

FEATURES & SPECIFICATIONS

- 32mm, 45mm, 60mm sizes
- 9V, 12V, 24V, 48V
- Hollow Shaft Designs
- Low Power Consumption
- Compact and lightweight
- High Heat Dissipation
- Class B insulation
- Operating Temp -20°C to +50°C
- Operating Life up to 25,000 hours
- Water and Dust Proof
- RoHS Compliant

APPLICATIONS

Robotics
Industrial Automation
Medical Devices
Laboratory Equipment
Optics
Pumps
Bar Coding Machines

FLAT MOTION External BLDC motors are compact and lightweight motor solutions for applications with limited space that require high performance and accurate control at different speeds.

For additional information or for assistance with your application, contact us at sales@pelonistech.com.



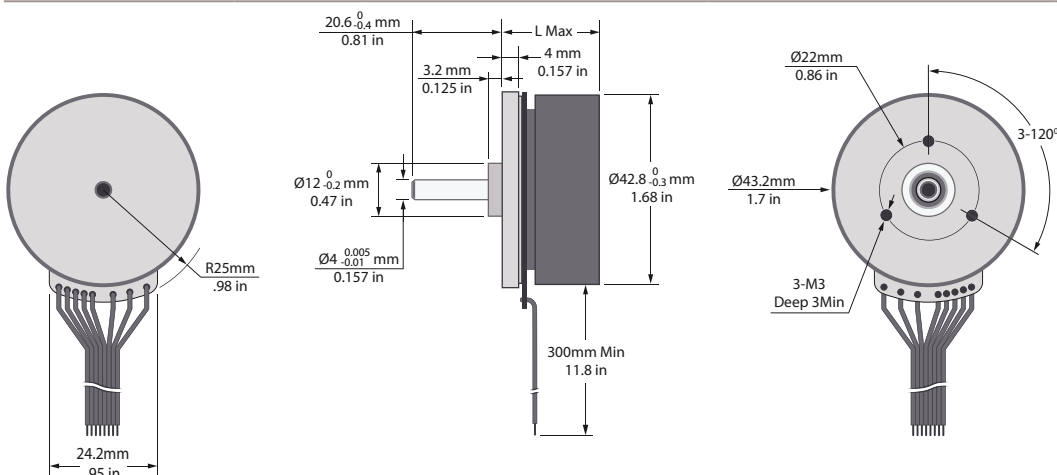
EC45-30/EC45-50/EC45-70

45mm External Rotor BLDC Motor

FLAT MOTION SERIES

Winding Type	: Star
Hall Effect Angle	: 120 Degree Electrical Angle
Resistance Accuracy	: $\pm 10\%$ @20°C
Inductance Accuracy	: $\pm 20\%$ @1kHz
Ambient Temperature	: -20°C~+50°C
Insulation Resistance	: 100M Ω Min, 500VDC
Dielectric Strength	: 500VAC for one minute
Shaft Radial Play	: 0.02 Max (450 g-load)
Shaft Axial Play	: 0.15 Max (450 g-load)
Operating Temperature	: -20°C~+50°C
Insulation Class	: Class B

MODEL NO		EC45-30	EC45-50	EC45-70
Number of Poles			16	
Number of Phases			3	
Rated Voltage	VDC		24	
Rated Speed	RPM	5000	5250	4860
No-Load Speed	RPM	6500	6710	6110
No-Load Current	A	< 0.5	< 0.5	< 0.5
Rated Power	W	30	50	70
Rated Torque	mN.m	50	84	130
Rated Current	A	1.6	2.6	3.6
Peak Torque	mN.m	150	252	390
Peak Current	A	4.8	7.8	10.8
Maximum Efficiency	%	80	83	85
Line to Line Resistance	ohms	1.42	0.70	0.56
Line to Line Inductance	mH	0.59	0.33	0.27
Torque Constant	mN.m/A	35.3	34.2	37.2
Back E.M.F.	Vrms/KRPM	2.61	2.53	2.75
Rotor Inertia	g.cm ²	99	135	181
Body Length	mm	18	21.6	27
Mass	Kg	80	120	150



Connector No	Lead Gauge	Function	Reference
RED	UL1430 24AWG	Vcc	Hall positive: +5V~+24V DC
BLUE		HALL A	
GREEN		HALL B	
WHITE		HALL C	
BLACK		GND	Hall negative
ORANGE	UL1430 24AWG	PHASE U	
BROWN		PHASE V	
YELLOW		PHASE W	