



ELECTROMAG

MABUCHI MOTOR GROUP

Motor solutions for medical blowers

Critical care and sub-acute ventilators
Transport and emergency ventilators
High flow and therapy devices
CPAP, APAP, BiPAP devices

Motor solutions for medical blowers

Since 2003, Electromag has been developing high-speed ultra-quiet brushless DC motors for critical healthcare applications.

As a leading motor provider for transport, hospital and homecare ventilation, Electromag offers development engineers a large range of solutions that will help them reach the required pressure-flow specification for virtually any blower design. In addition, they can rely on Electromag's specialist guidance to optimize system performance, thermal aspects and footprint.

Electromag's expertise in vibration management contributes significantly to reducing noise emissions and reaching device lifetimes of up to 40,000 hours. To address homecare applications, Electromag offers cost effective solutions that can be integrated within the blower volute. All motors can be customized to suit various mechanical interfaces and electrical characteristics.

Additional features

- Lightweight and robust design
- Low rotor inertia to achieve highly dynamic speed profiles
- High efficiency of up to 92% for reduced power consumption and increased autonomy of battery powered units
- Patented slotless coil design provides a higher torque density than conventional motors
- Optional protection for oxygen resistance or autoclave sterilization



Solutions overview

APPLICATION	MOTOR	DIAMETER	LENGTH	TECHNOLOGY	MOTOR CONSTANT	TYPICAL SPEED RANGE				MECHANICAL POWER AT PEAK EFFICIENCY			
		mm	mm		mNm/√W	krpm				W			
						20	40	60	80	30	80	130	180
TRANSPORT & EMERGENCY		22	60	Slotless	11.8		██████████						██████████
		22	50	Slotless	8.6		██████████					██████████	
		16	46	Slotless	6.5		██████████				██████████		
HOSPITAL - Critical care - Sub-acute - Neonatal - Anesthesia		44	27	Slotted	12.2	██████████						██████████	██████████
		32	27	Slotted	6.0	██████████	██████████				██████████		
THERAPY - High flow - Secretion management		44	22	Slotted	6.4	██████████					██████████		
		32	22	Slotted	4.1	██████████	██████████				██████████		
HEMOCARE - BiPAP - APAP - CPAP		44	22	Slotted	6.4	██████████					██████████		
		32	22	Slotted	4.1	██████████	██████████				██████████		

Please contact us for detailed technical data or further solutions

Who we are

Electromag SA, headquartered in Ecublens, Switzerland, is a leading expert in the development and manufacturing of brushless DC motors for demanding applications up to 300 W. One of the hallmark features of Electromag motors is their quietness and low vibration level for speeds up to 100,000 rpm. Renowned for their reliability, Electromag motors offer highest efficiency, in particular thanks to a patented winding technology.

Since 2021, Electromag SA is part of Mabuchi Motor Group. Mabuchi Motor with about 21,000 employees worldwide and listed on the Tokyo Stock Exchange has a strong presence in the automotive products as well as the consumer and industrial markets.

Key figures:

- Company founded in 2003
- Over 200 models developed
- More than 3 million motors sold
- ISO9001 and ISO13485 certified



Innovation



Design



Customization



Production



ultra-quiet high-speed motors

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