



## Brushless DC Slotted Motion Solutions



# MOTION SOLUTIONS THAT MOVE LIFE Forward

Your unique motion solution challenges call for revolutionary Portescap solutions. Leveraging over 70 years of experience in precision micro motor technology and over 20 years in sterilizable motor technology, we put your ideas into motion.

Our motors can help your applications benefit from superior miniaturization, low vibration, and high efficiency and precision. In combination with our sterilizable expertise, our customization ability allows us to collaborate with our customers to create a complete solution to enhance the life of your product.

Whatever your next design challenge, Portescap can deliver the right power in small places.

# Portescap



# PRODUCT OFFERING

Full product line selection

Model	Ø in (mm)	L in (mm)	Max. Cont. Stall Torque oz-in (mNm)	Peak Torque oz-in (mNm)
B0504	0.5 (12.7)	0.938 (23.8)	0.4 (3)	1.7 (12)
B0508	0.5 (12.7)	1.438 (36.5)	0.9 (7)	6.3 (44)
B0512	0.5 (12.7)	1.938 (49.2)	1.3 (9)	10.3 (73)
B0610	0.65 (16.5)	2.011 (51.1)	2.7 (19)	16 (113)
B0614	0.65 (16.5)	2.436 (61.9)	3.8 (27)	25.6 (181)
B0906	0.9 (22.9)	1.778 (45.2)	3 (21)	18.6 (131)
B0909	0.9 (22.9)	2.108 (53.5)	4.3 (30)	29.5 (208)
B0912	0.9 (22.9)	2.438 (61.9)	5.4 (38)	42 (297)
B1106	1.1 (27.9)	1.95 (49.5)	6 (43)	26.9 (190)
B1112	1.1 (27.9)	2.475 (62.9)	10.4 (73)	67.2 (475)
B1118	1.1 (27.9)	3 (76.2)	13.4 (95)	57.9 (409)
B1505	1.5 (38.1)	2.375 (60.3)	8.8 (62)	35.7 (252)
B1515	1.5 (38.1)	3.375 (85.7)	24.7 (174)	174.6 (1233)
B1525	1.5 (38.1)	4.375 (111.1)	39 (275)	322.7 (2279)

Continuous power range 10-500 W  
 Speed up to 100,000 rpm  
 Continuous torque up to 1,350 oz-in (9.5Nm) - geared  
 Autoclavable option



## ADVANTAGES OF BLDC SLOTTED TECHNOLOGY

The slotted technology uses a stator that consists of stacked steel lamination with winding placed in the slots that are axially cut along the inner periphery.

The main advantages of the slotted technology are:

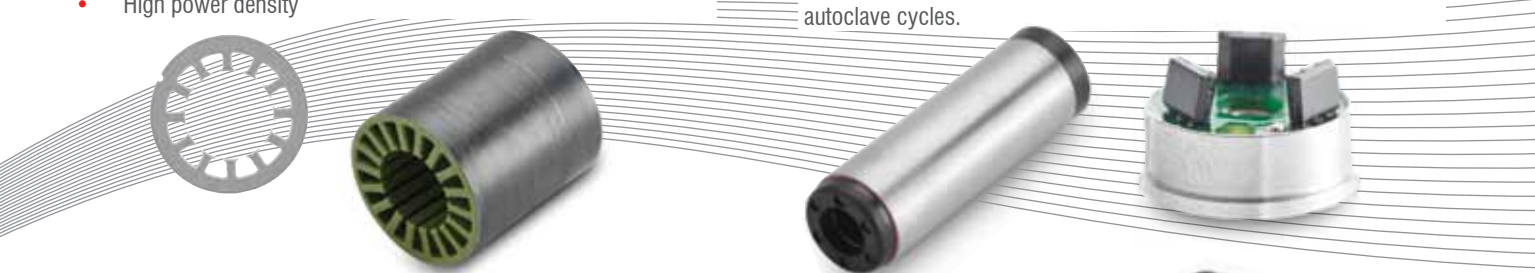
- Ease of winding customization
- Improved heat dissipation over other brushless technologies
- Ability to withstand high peak torque
- High power density

## STERILIZATION & HARSH ENVIRONMENT

**Do you want to double the life of your surgical hand tool?**

Portescap has more than 20 years of experience in sterilizable motor technology.

Encapsulated winding and printed circuit board allow Portescap Brushless Slotted DC motors to survive an excess of 1,000 autoclave cycles.



## CUSTOMIZATION ON CALL 99% OF OUR MOTORS ARE CUSTOM ENGINEERED

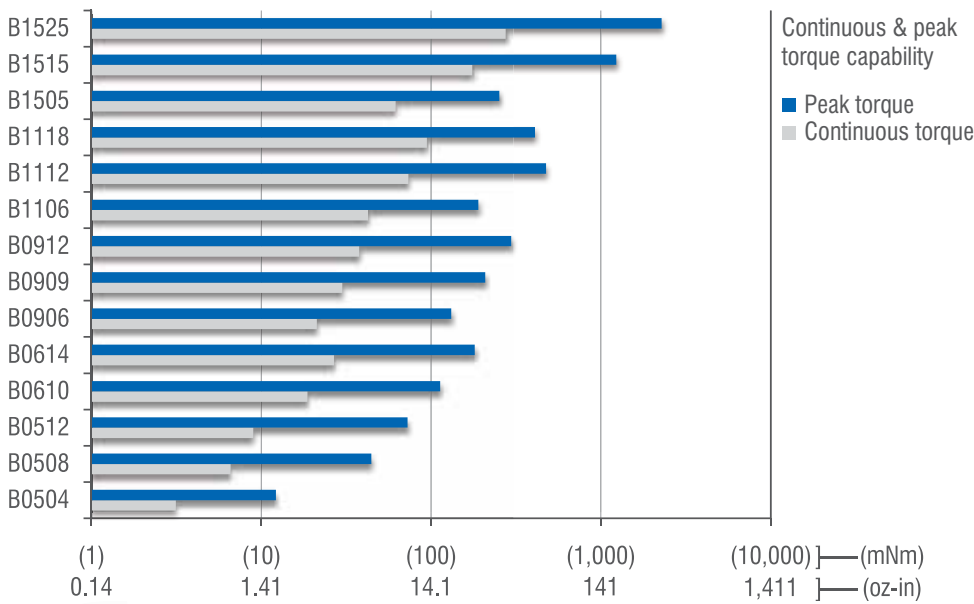
Portescap can enhance all standard products to meet specific needs including mounting configuration, performance specification and thermal requirements.

Whether your design has specific performance characteristics, size constraints, or has to operate in a challenging environment, Portescap can provide the exact solution.

Customization includes

- Special winding and magnet to meet specific speed, torque and efficiency
- Special lamination to reduce temperature
- Overmolded stator and printed circuit board to survive autoclave sterilization
- Custom connector and pin options
- Special shaft: cannulated, flat, cross hole, coating, sealing
- Value added assembly





Continuous & peak torque capability

■ Peak torque  
■ Continuous torque

Also available on request: size 8 (0.8 in / 20.3 mm), size 12 (1.2 in / 30.5 mm) & custom stack length for all frame sizes



## 24 HOURS RAPID PROTOTYPING

Get your product to market faster through Portescap's rapid prototyping and collaborative engineering.

Most of the catalog motors are available in a 24 hour turnaround.

Non-standard prototype orders requiring minor product modifications are available for delivery within five business days. Major redesign customization prototypes take as little as five weeks from time of order to delivery.

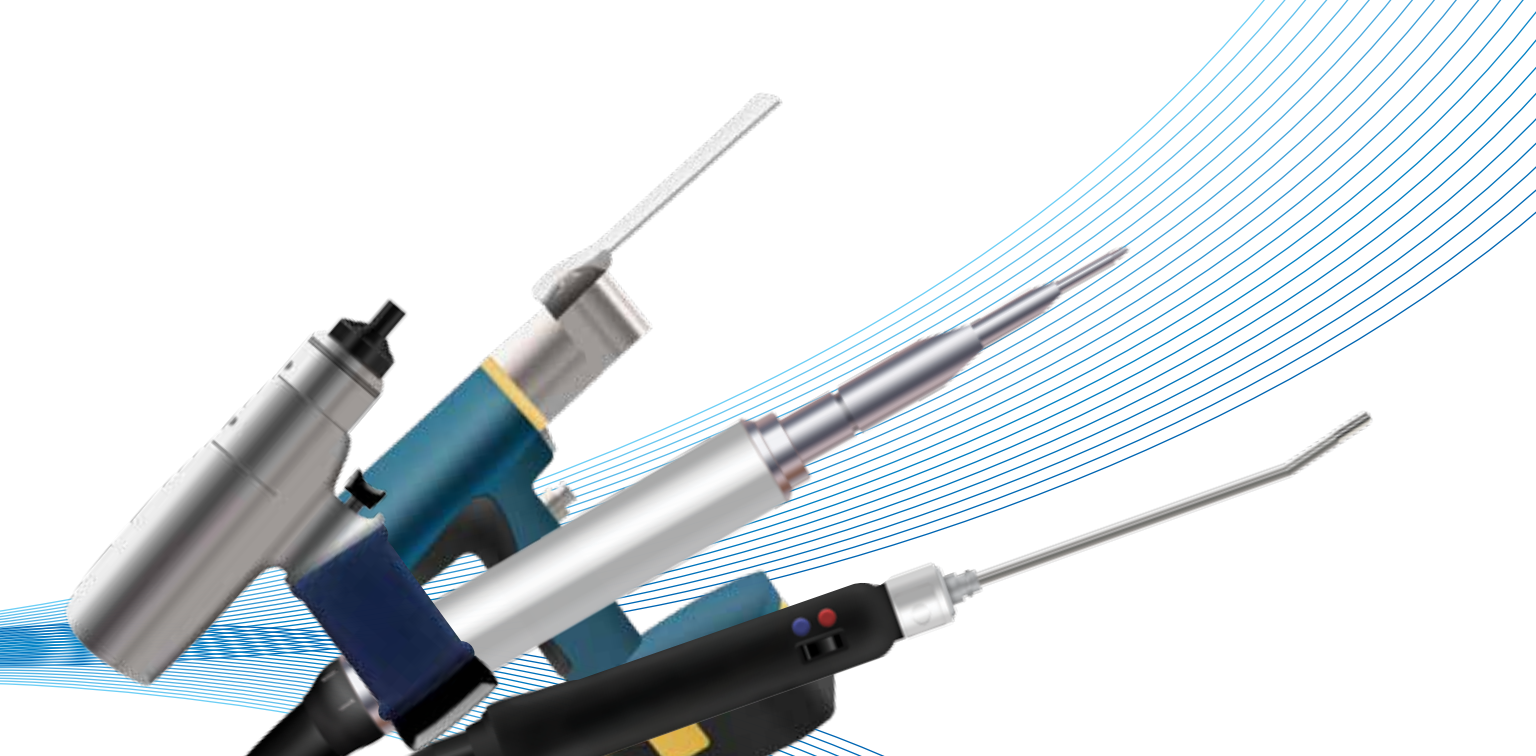
## GLOBAL PRESENCE

With Brushless DC motor manufacturing facilities in West Chester, PA USA and Mumbai India, Portescap can solve the most complex miniature motion challenges quickly, accurately and cost effectively.

Manufacturing	Manufacturing Capabilities	Testing Capabilities
High Performance Brushless Motors	High Customization Level	Reliability / Life
Sterilizable Motors	Lean Manufacturing	Speed, Torque, Current and BEMF
AC Motors	Rapid Prototyping	Stall & Cogging Torque Measurement
Gearheads	Value-Added Assembly	Electrical Insulation
	Low to High Volume	Temperature Measurement
	Kanban	Autoclave / Sterilization
		Visual and Mechanical Inspection
		FEA Analysis

## A WORLD OF APPLICATIONS

Medical	Powered Surgical & Dental Instruments: Arthroscopy shaver, sagittal saw, reciprocating saw, oscillating saw, orthopedic drill, medium & high speed drill
Benefits	High power density, high efficiency, customization, autoclavability
Industrial	Handheld Tools: Nut runners, screwdrivers
Benefits	Customization, reliability, peak torque capability
Aerospace & Defense	Missile Actuator Systems, Actuators & Weapons: Fin control actuation system, seeker system, fuel valve & environmental control actuators
Benefits	Ability to survive harsh environment, customization, high power density



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