Frequently Asked Questions

MOTORS

Q: Can you **help me select** a correct motor for my application?
Q: Can your motors be **driven** at something other than their **nominal voltage**?
Q: **How long** do your motors and gearheads **last**?
Q: Can you run Portescap DC motors and gear-motors on **batteries**?
Q: Can any of your motors and gearheads be **combined**?
Q: Can Portescap add **cables and connectors** to the motor?
Q: What factors affect motor **noise**?
Q: Do you have **speed-torque curves** available for your motors?
Q: There are shafts on both ends of the motor, is it available with a **single shaft**?
Q: Is it possible to have a **custom shaft** made on the motor, such as a flat or D-cut shaft?
Q: Can your motors be used as **generators**?
Q: Are your motors/gearmotors capable of withstanding **industrial application environments**?
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Q: Where does the name **Hybrid Step** motor come from?
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GEARHEADS

Q: Are all of your gearheads reversible?
Q: How long do your motors and gearheads last?
Q: Can you run Portescap DC motors and gear-motors on batteries?
Q: Can any of your motors and gearheads be combined?
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ENCODERS

Q: Can I get feedback devices such as an encoder or other components put on our motor?
Q: What types of encoder do you have?
Q: What is a magnetoresistive encoder?

DOCUMENTATION

- Can I receive a copy of your RoHS declaration?
- Can I receive a copy of your ISO Certification?

Frequently Asked Questions

Q1: Can you help me select a correct motor for my application?
A1: Yes, our application engineers are available to discuss your application and assist in the selection of the appropriate product based on your design requirements.

Q2: Can your motors be driven at something other than their nominal voltage?
A2: Yes, it is desirable to run the motor slower (less than the nominal voltage). Since the motor life is affected by the speed of operation, operating the motor at lower voltages means less brush/commutator wear for all brush type motors, in addition to lower current consumption, this translates to longer motor life. However if your application requires additional performance due to size restrictions, overdriving the motor is possible. In this case sacrificing product lifetime is a consideration to take into account.

Q3&17: How long do your motors and gearheads last?
A3&17: Every application differs in life of a product, operating environment, input power, duty cycle; all affect the life of a product. Even how the motor or gearmotor is connected to the load affects the products total life performance. Other parameters to consider are back-driving the gearmotor or running the motor or gearmotor into hard stops have an affect on the overall life of a product. If your application requires the motor or gearmotor to have high axial or radial loads, ball bearings should be considered. If your design requires long life as one of the parameters, you may want to consider using one of our brushless motors. Brushless motors are generally only limited on life due to the ball bearings which support the shaft. Our application engineers are available to discuss on of your questions concerning life of a product and make recommendations on the best product for the design criteria.

Q4&18: Can you run Portescap DC motors and gear-motors on batteries?
A4&18: Yes, the Portescap coil – has been constructed so there is no moving iron in the rotor. We designate this type of motor construction as an Ironless coil. In this Ironless coil only the copper coil turns (around an immobile magnet system). This makes the rotor inertia extremely small and able to run at very low current levels. This type of design is most favorable for battery type applications. In fact our *Athlonix* motors have been uniquely designed to excel in performance for battery applications.

Q5&19: Can any of your motors and gearheads be combined?
A5&19: All of motors can be assembled with a gearhead to provide the performance you require. Our motor specification pages shows which gearheads can be assembled with the motor.

Q6: Can Portescap add cables and connectors to the motor?
A6: Yes, we have the capabilities to add cables and connectors to any of our motor products. For a quote on adding a special requirement, please call our application engineers for assistance with your design.

Q7: What factors affect motor noise?
A7: Our motors are designed for quiet operation. This is achieved through our proprietary motor design techniques and material selection. There are many factors to consider, such as how the motor is mounted in the application, the load and speed the motor will operate under. Other considerations could be the type bearings selected for the motor and or gearmotor. Before making a final selection any motor/gearmotor being considered for the application should be thoroughly tested in the design for audible noise levels if this is a design concern for the application.

Q8: Do you have speed-torque curves available for your motors?
A8: Please submit an inquiry letting us know for which product you require a curve for and our application engineering team will let you know if there is a speed/torque curve available.

Q9: There are shafts on both ends of the motor, is it available with a single shaft?
A9: In most cases yes. You can select almost all of our motors (both brush, brushless, and stepping) with either a single output shaft or a thru- (double) shaft. Call one of our Sales Associates if you want specific information on pricing and product availability.

Q10: Is it possible to have a custom shaft made on the motor, such as a flat or D-cut shaft?
A10: Yes. You can specify where you want a flat on a shaft. You can also specify if you want a hole through the shaft, a pinion or pulley attached to the shaft, or a special sized shaft.

Q11: Can your motors be used as generators?
A11: Yes, DC brush type motors can be used as generators. The disadvantage is they offer very low voltages. If a DC voltage feedback is desired we offer motor-tachometer combinations, which are specifically designed to output a DC voltage. These are low output level devices. For assistance please contact our application engineers to discuss your application.

Q12: Are your motors/gearmotors capable of withstanding industrial application environments?
A12: All of difference product lines are used in industrial environments such as factory automation, automotive handtools, assembly plants, machining applications, semiconductor plants, HVAC, and robotics. We can also provide autoclavable motors/gearmotors for medical and dental applications. If your application requires a motor/gearmotor to be in an extreme environment please consult with our application engineers for the best suitable product for the application.

Q13: What's the difference between a "servo" motor and a regular motor?
A13: A servomotor uses an automatic device such as an encoder for error-sensing feedback to correct the performance (motion, velocity, position and or torque) of a motor. And is considered a closed loop feedback system where the repeatability and accuracy are an important application requirement. Open loop or “regular” motors are used when performance feedback data is not critical for the application.

Q14: Where does the name Hybrid Step motor come from?
A14: As the name implies, hybrid steppers combine the two technologies with a permanent magnet and “reluctance” serrations in the rotor and stator. (Magnetic reluctance is a material's capability to oppose the flow of magnetic fields through it.) These motors provide fine resolutions, usually with 0.9 or 1.8° step angles.

The number of incoming pulses and the rate at which steppers are fed precisely control motion because stepper motors are inherently digital. Thus, a pulse applied to the drive electronics results in a shaft movement of one step. Steppers are commonly used “open loop” or without feedback because when properly sized, the motors produce the same number of steps every time.

Q15: Are your Brushless motors autoclavable?
A15: We offer a full line of BLDC slotted motors that are available with autoclavability. These motors are uniquely designed to meet the requirements of sterile and other demanding environments. Our autoclavable motors have been life tested to withstand in excess of 1,000 autoclave cycles. Many of our brushless motors are utilized in medical applications that require autoclaving.

Q16: Are all of your gearheads reversible?
A16: Yes, all planetary and spur gearheads are designed for bi-directional operation.

Q20: When should I use a planetary gearhead or spur gearhead?
A20: Spur gearheads are utilized when low current consumption, low noise, and high efficiencies are a requirement. Planetary gearheads are typically used when high torques are required in an application with size restrictions of where the gearmotor can fit into. Planetary gearboxes typically exhibit higher current consumption, lower efficiency, and higher audible noise levels.

Q21: Can I get feedback devices such as an encoder or other components put on our motor?
A21: Yes, each of our products are designed to accommodate a variety of complimentary devices as follows: spur, planetary, optical and magnetic encoders, power-on and power-off brakes

Q22: What types of encoder do you have?
A22: Optical, magnetic and magnetoresistive types.

Q23: What is a magnetoresistive encoder?
A23: Portescap's high resolution MR encoders exploit anisotropic magnetoresistance effect, which is related to resistance changes due to the angle between the magnetization and current.

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