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Press Release

What is the Purpose of an Electric Motor?

Many of the household appliances we use on a daily basis as well as big industrial operations use electric motors, but what are their uses and how do they work?

Industries all around the world are powered by maxon electric motors, including those that use conveyors, automatic doors, railway wipers, and even amusement arcade machines. In this article, we go over the operation of an electric motor's parts and some of the industries in which they are used.



How do electric motors work?

Electric motors function, in essence, by transforming electrical energy into mechanical energy. When this occurs in a magnetic field, a force is produced that rotates the shaft. Electric motors can be powered by alternating current or direct current forces, hence AC and DC motors.

What are the key electric motor components?

There are various parts that go into making an electric motor work, depending on its usage and the sort of current it receives. Here are a few of a motor's key components:

- **Rotor:** The rotor, which is a coil attached on an axle, generates the mechanical energy required for rotation. It has conductors that can carry current and interact with the stator's magnetic field while it spins at a high speed.
- **Stator:** This acts in the opposite way to a rotor in that it is a stationary part of the electromagnetic circuit. It is composed of windings or permanent magnets, and laminations, which are thin metal sheets, are frequently used in its construction to help reduce energy loss. The majority of these are found in brushed DC motors.
- **Commutator:** - The rotor would not be able to spin continuously without this device, making it a crucial part of DC motors. The commutator is a half ring in the electric motor, usually made from copper and it allows the rotor to spin by reversing the current each time the rotor turns 180 degrees

It's critical to keep in mind that these components behave differently depending on whether they are connected to brushless or brushed motors. Permanent magnets are mounted on the rotor of a brushless DC motor, while electromagnets are mounted on the stator.

What are electric motors used for?

Electric motors are used in a variety of industries for a number of reasons, including their longer lifespan in comparison to fossil fuel engines because they require less maintenance and provide a greener option.

AC motors are typically employed in conveyor systems, which are widely used in factories and warehouses because they can deliver goods steadily and consistently.

Another example would be its use in air conditioning systems. As AC motors are brushless, they are inherently dependable and therefore require very little maintenance.

A DC motor can handle the movement of heavier loads and will function well in a variety of conditions, therefore they are found in mission-critical applications, such as train wiper systems because of their reliability and strength. These types of motors can also be found in smaller appliances such as vacuum cleaners and like all motors they can be adapted to suit the requirements of the application.

Learn more about maxon electric motors by getting in touch.

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The press release is available on the internet at: www.maxongroup.net.au

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The Swiss specialist for quality drives

maxon is a developer and manufacturer of brushed and brushless DC motors, as well as gearheads, encoders, controllers, and entire mechatronic systems. maxon drives are used wherever the requirements are particularly high: in NASA's Mars rovers, in surgical power tools, in humanoid robots and in precision industrial applications, for example. To maintain its leadership in this demanding market, the company invests a considerable share of its annual revenue in research and development. Worldwide, maxon has more than 3000 employees at nine production sites and is represented by sales companies in more than 30 countries.