Linear Motors and Their Contemporary Usage by Michael Adams

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A linear motor is a motor device in which the stator is rolled flat, instead of being circular. The rotor moves in a straight line along the length of the stator. The power in this set-up is typically supplied with a varying magnetic field. This is what creates linear motion or force, instead of rotary motion or force.

These motors can be used for applications that require both, high acceleration or low acceleration. For instance, they can be used for train propulsion or for moving elevators. Electric motors that are steadily gaining popularity today have emerged as a better alternative to their conventionally used hydraulic, pneumatic and mechanical counterparts. The use of electricity has expanded the horizons of these products by offering more accuracy, controllability and programmability. All these factors translate into a much better end-user experience.

Moreover, it has been observed that these motors are easier to integrate and use. Over all, the precision offered by an electric linear motor is superior to all other types of linear motors. This particular device is also highly recommended at places where shop noise needs to be reduced, such as in modern-day elevators. Risks associated with backlash or mechanical slamming have been effectively addressed by several manufacturers in these innovative devices. As a user, you can also expect these motors to serve you significantly longer, giving you better returns on your investment in the long run.

Another important advantage that needs to be mentioned here is that these units do not require compressed air generations. If you have been considering an investment in an electric actuator, these motors are recommended. Here are some of the options and modifications that can be implemented on these devices:

â€¢Encoder resolutions of 5 micrometers are a standard feature. However, 1 micrometer and 0.1 micrometer resolutions can be availed in custom models.

â€¢The shaft ends of these units can be chosen as male, female or blank, or other custom specifications.

â€¢A very critical feature of this type of motor is the return spring. This prevents the shaft from dropping during vertical operation in the event of a power outage or disruption.

â€¢A straight connector is a standard feature; however you could opt for a 90-degree side connector if so desired.

â€¢The electric actuator can be purchased with multiple mounting points, such as a face mount or with base mount.

If your application calls for a high level of customization, you could discuss the required parameters with your chosen manufacturer. These motors are widely used in operations such as aircrafts, paper converting, transfer operations, digging and mining operations, and even advanced weaponry. In the modern-day engineering scenario where industries are getting sensitive towards the environment, using electric linear motors eliminates the use of hydraulic fluids.

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I have many years of experience in the electronics & electrical manufacturing industry. I take interest in sharing my knowledge about cost effective a linear motors and electric cylinder for businesses. If you are looking for the most demanding a electric actuator, you stand to benefit from my articles.

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