Brushless DC motors for use in vacuum.

Scientific instrumentation applications and the use of brushless DC motors.

Maxon motor have released a Brushless DC motor suitable for use in ultra-high vacuum. The 22mm 24V brushless DC motor is unique in that it is an off-the-shelf solution for an application that traditionally requires high levels of customisation. The all stainless steel construction, SmCo magnet based brushless motor features very low outgassing and can be baked out at 240°C. It is also vibration tested to MIL-STD810F. Scientific and vacuum applications for DC motors are extremely varied. An example being the Watt balance, a machine developed to compare masses with electrical values in a vacuum. Its purpose is to redefine the measure of a kilogram. In the past we have relied simply on a known set of platinum-iridium weights that have varied with one another over time. The Watt balance seeks to overcome this problem using Planck’s Constant to define the kilogram in terms of voltage and current. The vacuum capable motor has allowed scientists to build a 3-axis robot providing the necessary mass movements for the experiment.

Detailed information on the motor and the Watt balance will be released in a white paper in October 2015, available on the maxon motor website.

If you would like to receive a copy of the paper please email info.au@maxonmotor.com

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The media release is available on the internet at: www.maxonmotor.com.au
maxon EPOS2 is a modular digital positioning controller.