Gearmotors Offer More Power in Smaller Package

Pittman brand 22-mm brush-commutated DC gearmotors integrate planetary gearboxes to meet demanding speed and torque requirements in applications with tight design envelopes. They ideally suit devices for the medical and biotech industries, among others, where DC gearmotors must be relatively small and highly powerful.

These 22-mm DC gearmotors (Series 6000) are available in three standard motor lengths: 1.256 in./31.90 mm, 1.556 in./39.52 mm, and 1.901 in./48.29 mm. Sturdy gearbox construction incorporates either metal gearing to promote high torque capacity or economical plastic gearing to reduce audible noise. Both gearbox versions offer the capability of bi-directional rotation.

Depending on type, the gearboxes range in length from 0.768 in./19.5 mm to 2.02 in./51.3 mm, weigh from 2.9 oz/81 g to 3.7 oz/106 g, and can deliver reduction ratios from 4:1 to 429:1. Maximum load capabilities range from 7 oz-in./0.05 Nm to 99 oz-in./0.7 Nm and continuous torque up to 0.7 Nm can be achieved. Continuous load torque capability will vary with gear ratio, motor selection, and operating conditions.

Key gearmotor features include skewed five-slot armature design, bonded neodymium magnets, two-pole stators, heavy-gauge steel housing, silicon steel laminations, and copper graphite brushes. Options include ball bearings, EMI/RFI filter networks, leadwire or terminal connection configurations, and optical encoders. The gearboxes can be specified in various mounting and shaft configurations; output ball bearings can be added for high radial loads; and additional reduction ratios can be developed.