How Green is Your Gearmotor?

Bison Gear & Engineering Corp. has established several new “green” product development initiatives focused on the fractional horsepower gearmotor market. We would like to highlight two of the latest.

Verdant Duty™ AC Gearmotors

Electric motors consume from 63% to 70% of the electricity used in American manufacturing. However, most motor efficiency efforts to date have focused on less than 10% of the total electric motor population: those motors greater than one horsepower. In response to customer desires to increase efficiency in equipment employing fractional horsepower gearmotors, Bison Gear & Engineering Corp. introduces its new 107 series Verdant Duty™ gearmotors in 5 standard, off-the-shelf models. Rated at 1/20 horsepower (37.3 watt) at 230 volt, 60 Hz, 3-phase, they feature an operating range from 6 to 90 Hz to provide a 15:1 range of adjustable output speeds in applications requiring no maintenance.

The gearmotors feature totally enclosed, non-ventilated (TENV) AC motors constructed with special insulation systems to ensure long life when driven by compact, economic frequency inverters that convert conventional AC single phase to three phase power. Employing integral gear reducers with gear ratios from 6.7:1 to 95.5:1 they offer output speeds from 368 to 1.7 RPM with output torques up to 100 in-lbs. (11.3 N-m).

Being able to utilize three phase over single phase fractional horsepower gearmotors provides an immediate payback in reduced energy consumption with improved efficiency. The new Verdant Duty™ products are a wise choice for variable speed applications, such as packaging equipment, machine drives and conveyors. Used in conjunction with Bison's matched inverter drives, customers can also increase their process efficiency and control by employing such features as adjustable acceleration and deceleration, minimum and maximum speed levels and current limiting, as well as DC injection braking.

The RoHS compliant gearmotors feature UL, cRUus and CE recognition and are supported by Bison's Innopreneurial™ application and design engineering capabilities to customize standard models to meet specific OEM needs. Customers' shortened supply chain requirements are fulfilled by the units being manufactured in Bison Gear's St. Charles, Illinois facilities to the highest quality standards to ensure dependable, long-life operation.

FlexTorq™ Hollow Shaft Offset Gearmotors

While a nice solution for tight spaces, right angle worm gear reducers can have efficiencies of 50% or lower. Spur and helical gears used in parallel shaft reducers are more typically in the area of 98%. Bison Gear offers its new 762 Series FlexTorq™ hollow shaft offset gearmotors as high efficiency alternatives to worm gear right angle gearmotors. Available in both AC and DC versions, from 1/20 to ½ hp (37 to 373 watts), with output torques to 2500 in-lbs (282 N-m) and output speeds from 1 to 65 RPM the unique offset configuration of these gearmotors makes them ideal for conveying and other heavy duty machine drive applications. Based on Bison’s Robusticity™ design philosophy, the FlexTorq gearmotors feature

precision hobbed integral carbonitrided pinions for wear resistance and long life. The large, hollow bore output shafts provide for maximum mounting flexibility.

Bison Gear & Engineering Corp.

With robust fractional horsepower gearmotor designs offering up to twice as much torque in the same package size as competitors, Bison Gear & Engineering continues to grow a strong engineering tradition begun in 1960. All of Bison's products are based on the simple philosophy: it's what's inside that counts. That means Bison starts with components of only the highest quality. Then, through advanced design and manufacturing techniques, Bison maximizes the power those components produce, yielding greater dependability, longer service life, and fewer field failures — all in a compact product with a lower cost per in-lb of torque.

With the industry's best application engineering assistance, Bison customers never have to over-specify to get exactly what they need. Bison's robust, dependable products have found a home in some of industry's most demanding applications. To learn what distinguishes Bison gearmotors from the competition, call for or download "The Bison Difference" brochure today.