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New HiflexDRIVE – The Flexible, Efficient and Clean Solution



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Food & Beverage Supplement
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 **Bauer**[®]
Gear Motor

An Altra Industrial Motion Company

New HiflexDRIVE –

The Flexible, Efficient and Clean Solution



The HiflexDRIVE range from Bauer is available in a standard, painted configuration or in aseptic and stainless steel versions.

Geared motors have offered solutions to a number of challenges in a variety of industrial sectors for many years, and now, with ever-increasing pressure to improve efficiency and reduce costs, more innovative and flexible solutions are being created. At the forefront is Bauer Gear Motor, which has already created a super premium efficiency (IE4) permanent magnet motor, and is now offering high-efficiency geared solutions that can operate reliably in hygienic environments, where regular washdowns are a necessity.

The latest HiflexDRIVE range from Bauer offers a modular system that combines the excellent efficiency of the IE4 permanent magnet synchronous motor (PMSM) with the compact dimensions of the BK17 gearbox. The package is available in a standard, painted configuration for conventional applications, or in aseptic and stainless steel versions that are specifically designed to operate in hygienic environments.

Ideally suited to conveyor applications, the HiflexDRIVE solution offers many advantages in terms of performance, reliability and flexibility. However, the special hygiene demands of industries such as pharmaceuticals and food & beverage, require specialized components that typically have to be specified to withstand the regular cleaning regimes and provide clean operation without risk of contamination.

Hygienic Quality

The aseptic design caters specifically to applications where regular washdowns involving cleaning chemicals are required to maintain a hygienic environment. The motor is designed so that a fan and cooling ribs are not required, thereby allowing for a completely smooth outer casing with a sealed non-drive end. This eliminates any dirt traps on the motor casing and also prevents re-infection of the local environment caused by air movement from a cooling fan.

In addition, the aseptic drive is painted using an acid- and alkali-resistant formula, which can withstand chemicals with a pH range of 2 – 12. As a result, the new drive system can withstand the cleaning solutions and disinfectants that are used within the food industry without affecting performance.

The stainless steel variant is designed for similar hygienic applications which run the additional risk of mechanical damage. The motor design has a similarly sealed non-drive end and smooth casing to prevent any accumulation of dirt.

Both models have a very high level of ingress protection, up to IP69K, which is a special designation for washdown applications involving high-pressure, high-temperature water. As a result, the new drive system can withstand commonly used cleaning solutions and disinfectants without affecting performance.

Motor Performance

Bauer, which is part of the Altra Industrial Motion group, has invested a considerable amount of design and development time into ensuring that its PMSM and drive packages deliver high-efficiency performance on partial loads, a criticism that has been levelled at other high-efficiency motor designs as the efficiency can drop-off sharply outside the ideal operating speed and load. Bauer's PMSMs maintain high efficiency levels within a wide partial load range, up to a load factor of 1:5.

PMSMs offer considerably improved efficiency when compared to induction motors, especially under partial load conditions, and have the added benefit of maintaining constant speed, independent of the load. This means that the motor speed does not vary – despite overload variations or cases of voltage drop – as long as the main frequency is kept constant.

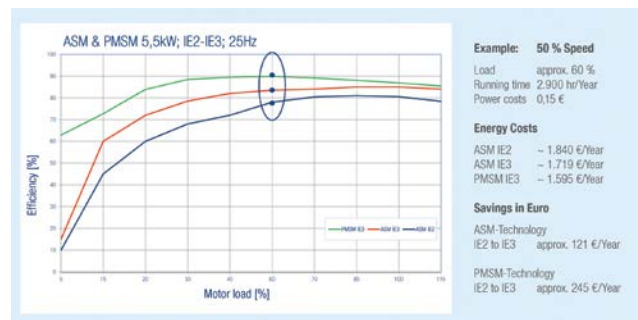
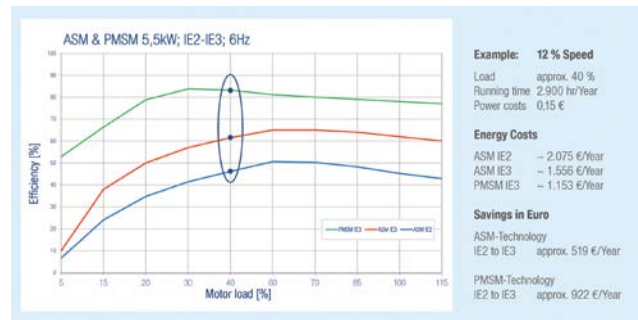
In order to save energy, permanent magnet motors are the most suitable drives in the following circumstances: Where a genuine need exists for speed control. Where there is considerable potential for reducing electricity consumption through lengthy operating times of motors, especially under partial load operation. Where the saved energy quickly offsets the investments for speed regulation mechanisms. Where a standard asynchronous motor also requires an inverter (resulting in additional costs) for speed regulation.

Bauer Gear Motor's range of PMSMs already fulfill the requirements of the soon-to-be-implemented IE4 (Super Premium Efficiency) classification. This is evidenced by their potential to achieve energy savings of up to 40% compared to an IE2 inverter-driven squirrel cage motor.

The PMSM series is an environmentally-friendly range of motors, employing a highly efficient rotor design that offers a number of key benefits. It reduces heat losses from the rotor by 100%, total losses by approximately 25%, and increases total efficiency by 10% or more – a significant advantage for stainless steel drives which dissipate heat less efficiently than aluminium or cast iron. For the PMSM user, this improved performance

translates into lower total cost of ownership, a reduction in CO₂ emissions, and ongoing savings that buffer against future increases in energy costs.

The HiflexDRIVE range brings together Bauer's design and manufacturing expertise in both IE4 motors and high-performance gearboxes to deliver a highly efficient, constant speed drive capable of performing in a wide range of commercial environments.



About Altra Industrial Motion

Altra Industrial Motion (NASDAQ:AIMC) is a leading multi-national designer, producer and marketer of a wide range of electromechanical power transmission products. The company brings together strong brands covering over 40 product lines with production facilities in nine countries.

Altra's leading brands include Boston Gear, Warner Electric, TB Wood's, Formsprag Clutch, Wichita Clutch, Industrial Clutch, Ameridrives Couplings, Kilian Manufacturing, Marland Clutch, Nuttall Gear, Bauer Gear Motor, Svendborg Brakes, Stieber Clutch, Twiflex Limited, Bibby Turboflex, Matrix International, Inertia Dynamics, Huco Dynatork, Lamiflex Couplings, Ameridrives Power Transmission, Guardian Couplings, Delroyd Worm Gear and Warner Linear. For information on any of these technology leaders, visit www.AltraMotion.com or call 815-389-3771.



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