

Permanent Magnet Motor Technology

By John Poland, Sales Manager, Welco Technologies, USA

Welco Technologies, a member of the McKecknie Group, is an engineering, manufacturing and marketing company which specializes in the production of custom-engineered AC electric motors.

Welco has more than a century's experience in providing Solutioneering (Solutions + Pioneering) for a range of difficult applications. Welco has a proud heritage of providing solutions based on motor technologies we have pioneered over the years. Because of the company's long history, Welco engineers can draw from a near-unlimited database of experiences and design successes to provide the Solutioneering to meet customer needs.

TEXTILE AND FIBERS INDUSTRY

Welco's patented VARI-HERTZ® permanent magnet synchronous motors eliminate the need for external speed feedback devices, because this synchronous motor maintains its speed regardless of rated loads, temperatures or power fluctuations. VARI-HERTZ® motors have served the manmade fibers industry by reducing energy consumption and PWM drive sizes, lowering current usage and capital expenditures, and eliminating the need for speed feedback for precise speed control.

OEM's in this industry want a motor that meets their specifications exactly. Welco accomplishes this by meeting the form, fit and function of the application, which means an engineered solution for optimal results. PASCO, a manufacturer of heated and ambient godet rolls, has many unique applications in which Welco has offered its expertise. Welco and PASCO have combined their collective areas of expertise to assist numerous customers in solving extremely challenging heated and ambient motorized godet roll applications. Welco partners with its customers to over-

come applications in harsh environments while optimizing motor designs for improved system operational reliability.

End-users want a motor that will replace obsolete designs, replace hard-to-get European designs (IEC design motors), or that will increase total system throughput by increasing motor speeds and output power. Welco excels in this effort.

PERMANENT MAGNET MOTORS

Welco engineers in sales, design and production are focused on working with end-users to convert older motor technology, such as synchronous reluctance motors, to a greatly improved Permanent Magnet (PM) motor technology. PM motors have superior power-factor and efficiency ratings, and draw less current, thus running cooler than antiquated reluctance motor designs. Welco manufactures motors that meet NEMA and IEC frame requirements. Welco motors also can be tested and certified to be CE compliant with European equipment.

For end-users looking to improve the throughput of an existing process or system, Welco's team of engineers and sales representatives will work to come up with the best solution to the particular need. Welco strives to pack as much HP into as small a package as the laws of physics will allow.

CUSTOM ENGINEERED MOTORS

Welco offers thousands of custom designs and can produce a custom-engineered motor to meet any requirement. This customization capability includes:

- TENV, TEFC and TEFV enclosures.
- Sub-NEMA to 445 NEMA frames.




Welco motor integrated with PASCO heated godet assembly.

- Water-jacketed enclosures.
- C-face, Foot mount, D-Flange, and other custom mounting configurations.
- More HP in a smaller frame.
- Speeds up to 30,000 rpm.

The Welco Advantage allows the custom engineering of a motor to meet precise application requirements.

With a strong heritage of Solutioneering, Welco can adapt rapidly to modify a variety of successful, efficient designs and configurations to meet today's requirements.

Welco's strength and growth are predicated and dependent upon helping customers grow. Our ability to produce rapid prototypes means your solution gets to your customer before your competitor does. By coupling a rapid prototype with the need to reduce costs and improve your customer's product, Welco can help you keep a process running or get a new initiative launched into production. This is accomplished through the Welco Advantage of on-time delivery, with 100% quality on all custom-engineered motors, which are designed and manufactured to meet the customer's specific requirements. All motors have the highest quality standards, which are supported by an ISO9001 quality system. 

For more information, contact Welco. Tel: 1 513 831 5335. Fax: 1 513 831 4962. Web site: www.motorzone.com

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