Marzoli – based in Brescia, Italy – has been manufacturing textile machines since 1851. Its strength lies in its portfolio of machines and systems that covers the complete spinning production process. The company’s portfolio extends from machines for processing cotton, man-made and composite fibers – from bale breakers to carding lines, drawframes, flyers to the manufacturing of yarn using a ring-spinning process.

**Strategic partnership creates security**

Its many years of experience, in-depth industry know-how, high level of technological competence and flexible manufacturing system allow Marzoli to respond to market demands with a high degree of innovation. To secure this position Marzoli has been working closely with Siemens for many years in the field of automation and drive technology. Their complete portfolio of machines has been equipped with SIMOTION and SINAMICS to achieve the highest degree of homogeneity in the different machine series.

**Efficient drive technology**

The modular, scalable structure of the SINAMICS S120 family of drives and the enormous flexibility of SIMOTION controllers significantly simplify and rationalize the development of various machine types. For instance, machines can essentially “inherit” the hardware and software engineering that has been implemented in other machines.

The multi-axis technology of the SINAMICS S120 family allows the control cabinet design to be optimized: the space required is minimized, cabling and electromechanical components are reduced.

**Rugged and durable**

The configuration of motor modules connected to a common DC bus and fed by an Active Line Module guarantees a high degree of reliability and ruggedness, even if the quality of the line supply is poor. This feature is of special significance for flyers and spinning frames. Until now voltage dips or power failures could cause all of the yarns to break resulting in significant production downtimes.

The SINAMICS drive modules with Cold Plate technology dissipate the power loss using an external heat sink via the thermal interface at the rear of the unit. This technology avoids the risk of the power unit overheating, which can occur in environments heavily laden with fluff.
Recipe for success: Flexibility through standardization

Integration makes the difference

The principle of integration employed by the multi-axis system SINAMICS S120 allows all of the drive parameters to be saved on one compact flash card, therefore significantly simplifying the commissioning of serial machines. The system also proves itself in operation: The Control Unit recognizes if a module is defective and the spare part is automatically integrated – without having to recommission the drive. Using the standard STARTER software tool, it is also possible to engineer all of the converters and servo drives of the SINAMICS family. The diagnostic tools available in STARTER allow the dynamic behavior of the drive components to be analyzed in detail.

Marzoli has made a fundamental decision to use IE2 motors with increased efficiency according to the latest European energy-saving standard for all of their machines. The use of induction motors with increased efficiency in conjunction with the SINAMICS Active Line Module infeed units (with active front-end technology) clearly demonstrates that Marzoli is convinced that energy-saving and innovation go hand in hand. According to the company’s philosophy of standardization, SINAMICS S120 Motor Modules are used for all of the machine types. With a few components and a minimum stock of spare parts it is possible to cover the complete range of drives installed in the system. In conjunction with the global presence of Siemens, it is ensured that maintenance costs and system downtimes can be reduced across the board.

More than just a supplier relationship

In its partnership with Siemens, Marzoli has found a single supplier for the complete automation of its machines and systems – one single partner for the quality, the integration and the after sales support provided through the global Siemens service centers.

In close cooperation, the common objectives are pursued in an open spirit of partnership – which in turn guarantees a continuous improvement process. Starting with the technical optimization of the solutions, which are used for the complete range of machines, up to the joint logistical control of supplied machines, both partners work hand in hand to create optimum solutions to address the current challenges of the spinning frame industry.

A trusting partnership bonds Marzoli and Siemens.
In their cooperation, their individual core competencies are optimally applied, which in turn secures the ongoing technological development of Marzoli machines and systems.

As a result of the extensive options for setting the control parameters in the drive the Marzoli application engineers can implement increased levels of machine performance without overstressing the mechanical system. The mechanical transmission elements are specially protected as the torques of the individual motors in the coupled drive train can be flexibly distributed. The fact that the components are fully integrated via a fieldbus allows a whole series of internal drive parameters to be displayed at the operator interface where they can be easily monitored. Consequentially, maintenance technicians can simply call up useful information for monitoring the condition of the machine. Using the operator interface (MP 277) and communication with the Marzoli supervisory system via Ethernet, operators can simply adapt the process parameters to the particular yarn.

Energy-saving is a must

A large family of reliable motors power the Marzoli machines, starting with 1FK7 servomotors for dynamic axes up to 1LG and 1LE induction motors for higher power ranges.

Siemens AG
Industry Sector
Motion Control Systems
P.O. Box 31 80
91050 ERLANGEN
GERMANY

Subject to change without prior notice
Order No.: E20001-A1510-P620-X-7600
DISPO 06372
SCHÖ/36072 B2TX.52.1.06 SB 09111.0
Printed in Germany
© Siemens AG 2011

The information provided in this brochure contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

All product designations may be trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.