

**Rexroth**  
Bosch Group

*At Drinktec 2009 show  
Smigroup presented  
the newly developed  
Shrinkpacker SK 600T.*

## Shrinkpacker Smiflexi SK 600T: Simple architecture for fast format changeover

More flexible, faster, easier: In the packaging industry more and more machine builders use SERCOS III to reach a higher overall productivity with innovative machine concepts, for example Smigroup, a world-wide leading manufacturer of packaging machines. In its newest generation of shrink packers, the SK series of the Smiflexi division, the Italian Company uses SERCOS III as universal bus for the complete automation and combines short format changeover times with a high throughput.

At Drinktec 2009 show, Smigroup presented the newly developed Shrinkpacker SK 600T. It can pack a wide range of containers, like bottles, cans, jars into film, in film only, cardboard pad plus film, tray only, or cardboard tray plus film. "The batch sizes in mineral water, soft drinks and lemonades are decreasing because of the high competition and our customers care about short format changeover times," says Pietro Volpi from SMI. The electronic cam shaft of the machine with 16 compact Rexroth IndraDrive Cs servo drives reduces the change-

over almost completely to software commands.

Italian-based company SMI is one of the world's largest manufacturer of hi-tech secondary packaging machines, and one of the leading manufacturers of rotary stretch-blow moulding machines. Smiflexi division markets about 300 shrinkwrappers and wrap-around casepackers every year, capable of output rates from 20 to 360 packs/minute. Smiform division produces approximately 50 stretch-blow moulders per year for the making of PET and PP containers.

The North Italian engineers decided to use the real-time communication SERCOS III for all servo drives and I/Os in the new machine. "This simplifies the architecture and gives us the choice of components from different suppliers," states Pietro Volpi. The MARTS 3000 control developed by SMI communicates over Ethernet with all actuators and I/Os from SMI, WAGO and Phoenix Contact.

SERCOS III controls 40 devices with a cycle time of 1ms. The simple integration of products of different suppliers with Ethernet interface reduced the engineering time by almost one third. SERCOS III has implemented real-time mechanisms, profiles, telegram structure and synchronization from its predecessor. "Additionally, SMI has integrated innovative SERCOS III functions such as redundancy into its new architecture," points out Luca Stanzani, Industrial Sector Food and Packaging of Bosch Rexroth in Italy.

Because of the hard synchronization of SERCOS III and the highly dynamic servo drives, the SK 600T packs up to 60 packs per minute in single lane operation. All machine types of the SK series are designed by SMI for multiple lane use with electric grouping of products. SERCOS III technology of real time direct cross communication between controls enables machine-builders and end users to synchronize different machines and modules

# Industrial Ethernet Module



- For the fast and economic connection of devices with EtherCAT, EtherNet/IP, SERCOS III, POWERLINK, Modbus-TCP and PROFINET I/O networks
- Complete real-time communication solution based on a FPGA module
- Generic Host-API for the connection via serial or shared memory interface

**IXXAT**

Leibnizstr. 15 · D-88250 Weingarten  
Tel.: +49-(0)7 51 / 5 61 46-0  
Fax: +49-(0)7 51 / 5 61 46-29  
Internet: www.ixxat.de

easily. "With this technology all customers can configure their complete packaging lines for highly flexible Inline processes," underlines Pietro Volpi.

In addition, various innovative solutions

explains Pietro Volpi – the automation components of both versions communicate via SERCOS III with the controller.



*The electronic camshaft of the machine with 16 compact Rexroth IndraDrive Cs servo drives reduces the changeover almost completely to software commands.*

reduce the time for format changeover: The self-adjusting product infeed guiding rails adapt automatically to the different pack sizes with almost no manual adjustment by the operator. All movements, starting from the grouping of products, unwinding of foils, to the automatic alignment of printed foil are controlled with the IndraDrive Cs servo drives, which have a performance range from 0.05 to 3.5kW. The highly compact multi-ethernet IndraDrive Cs drives are the standard configuration with multi-encoder interface for the most used encoder types. This simplifies the logistics for SMI and the end user, because one hardware covers all options within the machines.

The new SK 600T also reaches a high efficiency due to reduced energy use: "Users can produce the heat for the shrink tunnel with electricity or gas,"

Contact:  
Bosch Rexroth AG  
Phone +49 (0) 9352/40-4552  
Fax +49 (0) 9352/403-4552  
Anfragen-PR@boschrexroth.de  
www.boschrexroth.com

Quick-Info 2-0902 ▲

## Impressum

Publishing, concept and design:  
STROBL GmbH, Ilsfeld-Auenstein,  
Phone +49 (0) 70 26/9 60 17  
e-mail: info@stroblgmbh.de

Responsible for content:  
Peter Lutz, SERCOS International e. V.

The solutions described and the designations used may be protected by trademark, patent or intellectual property rights.



**What all have:**  
Real-time Ethernet  
Communications.

**Only SERCOS has:**  
Plug-and-play –  
non-proprietary.

**SERCOS III – the independent real-time high-performance fieldbus.**

Our customers deservedly expect only the very best solutions for drive and control technology. The core for such solutions is a comprehensive communication system. This is why we actively support the development of SERCOS III. It incorporates two standards: the proven real-time mechanisms and the internationally established Ethernet technology. SERCOS III is standardized from the protocol to the unit data, and has been, from the beginning, designed by a team of people from several companies. As a result, the high-intelligence devices of Rexroth are unlimitedly compatible for plug-and-play. Bosch Rexroth. **The Drive & Control Company**