

Packaging with SERCOS interface

Vertical Form Fill and Seal Machine (VFFS)

Datum: 23. March 2000

Hannover

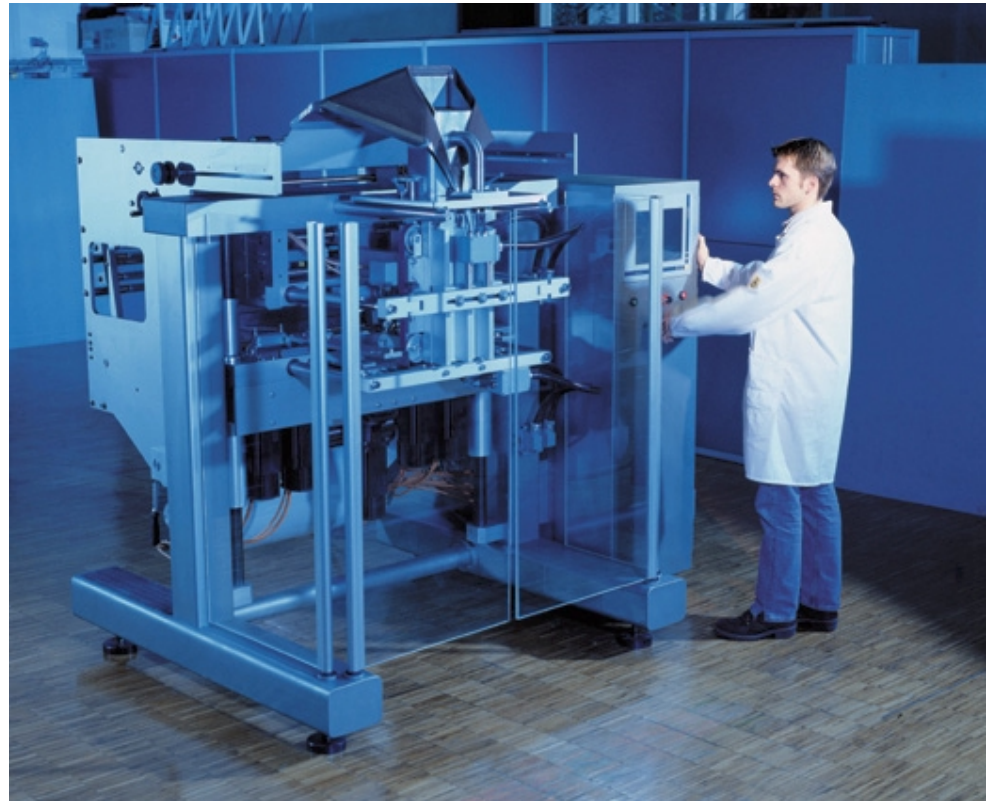
Referent: Wolfgang Klinkel

KPC O-Mega Packaging AG

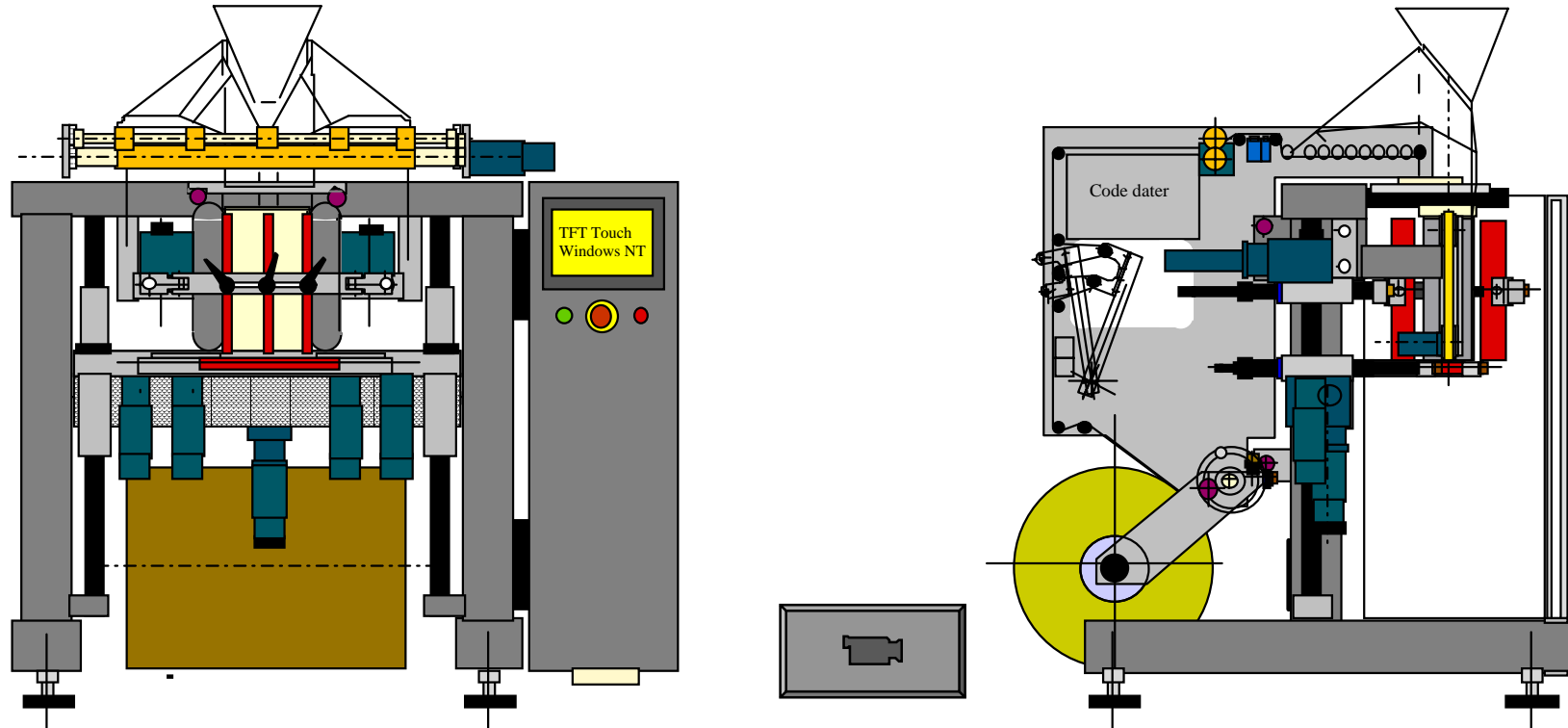
SERCOSⁱ-Application in Packaging

KPC: Consultant Company
for O-Mega Packaging
located in
Lugano/Switzerland

Revolutionary
new development in
VFFS machines
10 servo axes
instead of 2 or 3 usually!



SERCOSⁱ-Application in Packaging

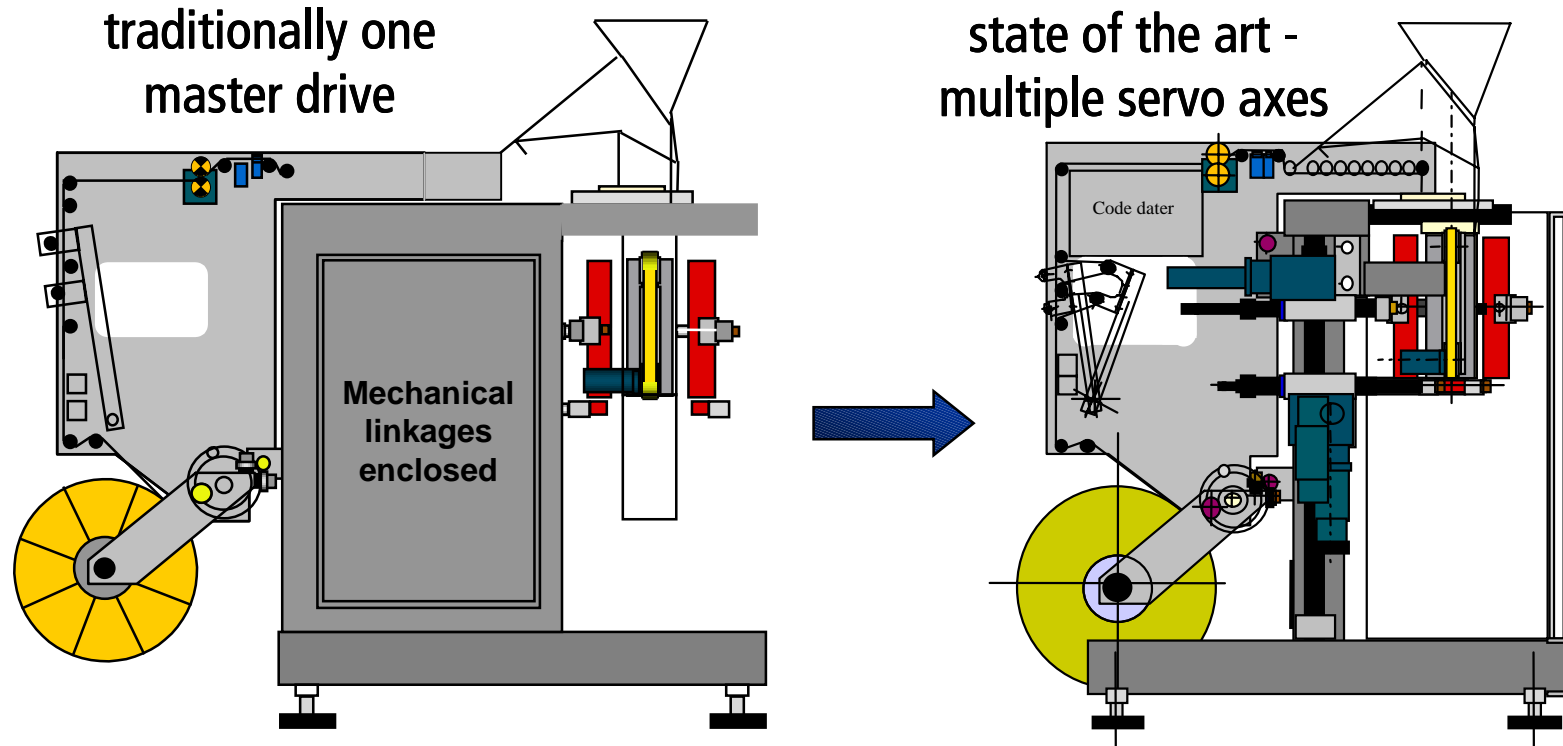


Design objective:

A new open modular flexible machine architecture in both -
mechanics and electrical drive and control

SERCOSⁱ-Application in Packaging

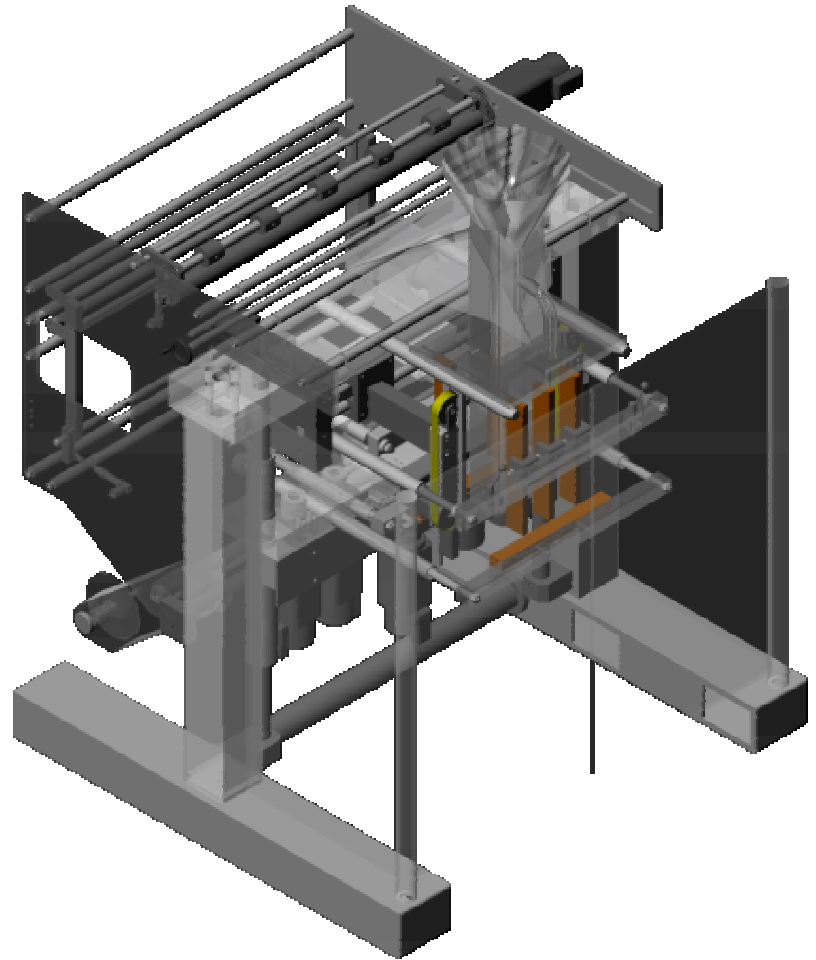
Migration from mechanical solutions to electronic line shafting allows new design principles for process oriented motion profiles



SERCOSⁱ-Application in Packaging

SERCOSⁱ interface provides opportunities for new control philosophies like:

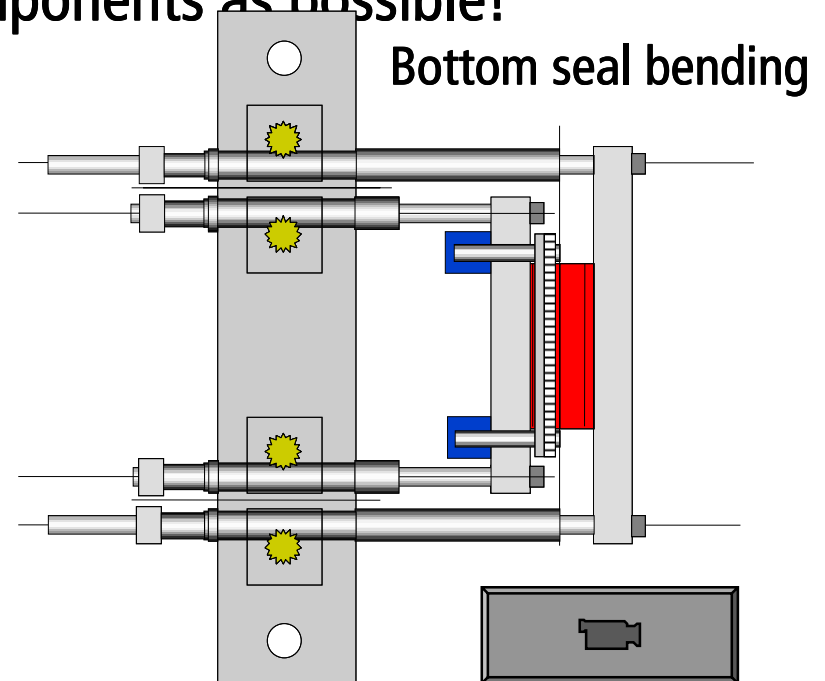
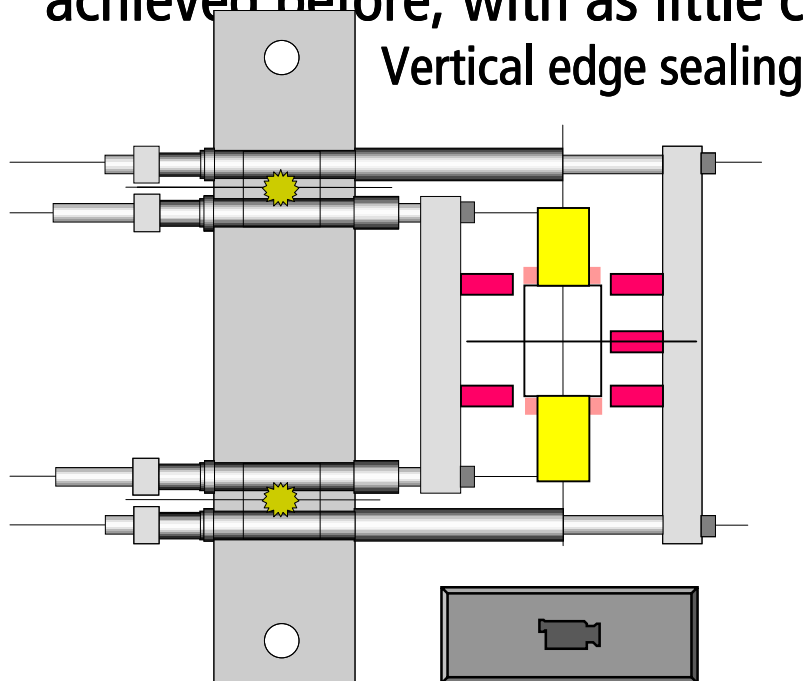
- **Electronic Line Shafting** with minimum efforts in hard- and software!
- Product formats and process parameters can be changed "on the fly"!
- Mechanical stress is reduced by decentralized servo motion!



SERCOSⁱ-Application in Packaging

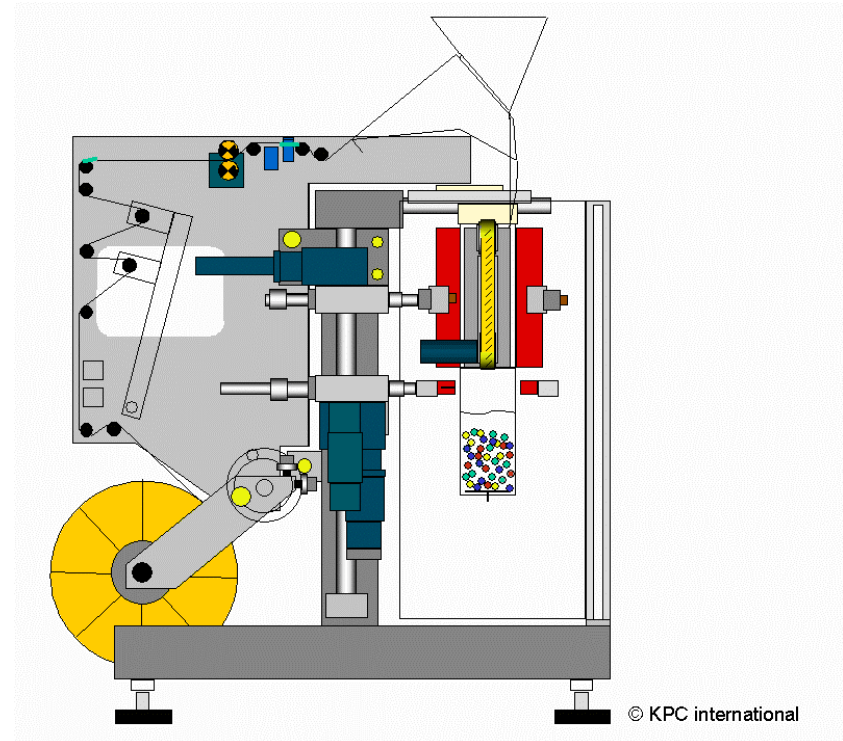
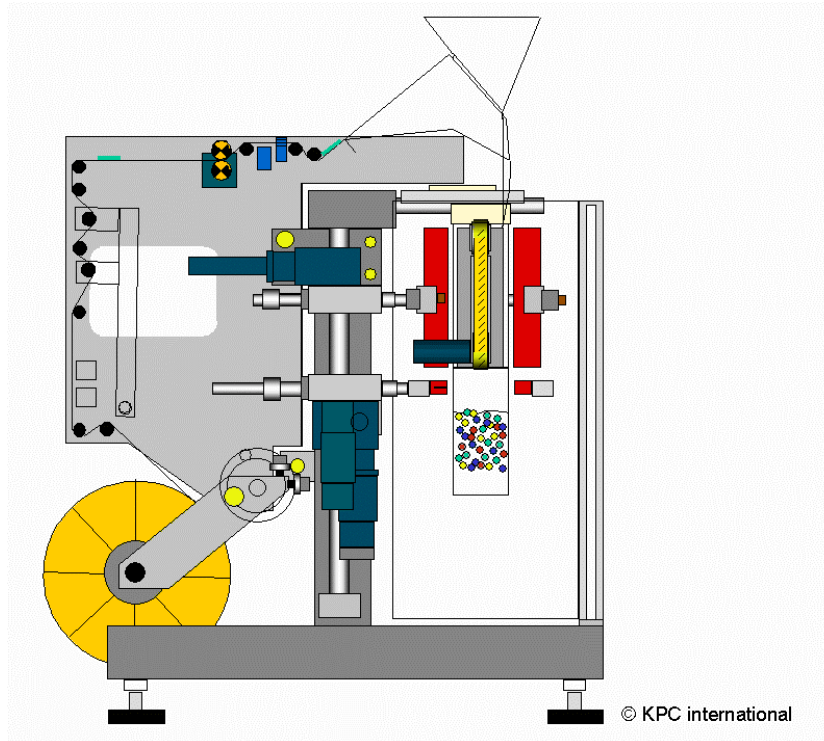
SERCOSⁱ interface guarantees absolute synchronous motion profiles in gearing ratio, cam table execution and phase offset correction.

This leads to mechanical engineering solutions, that were never achieved before, with as little components as possible!

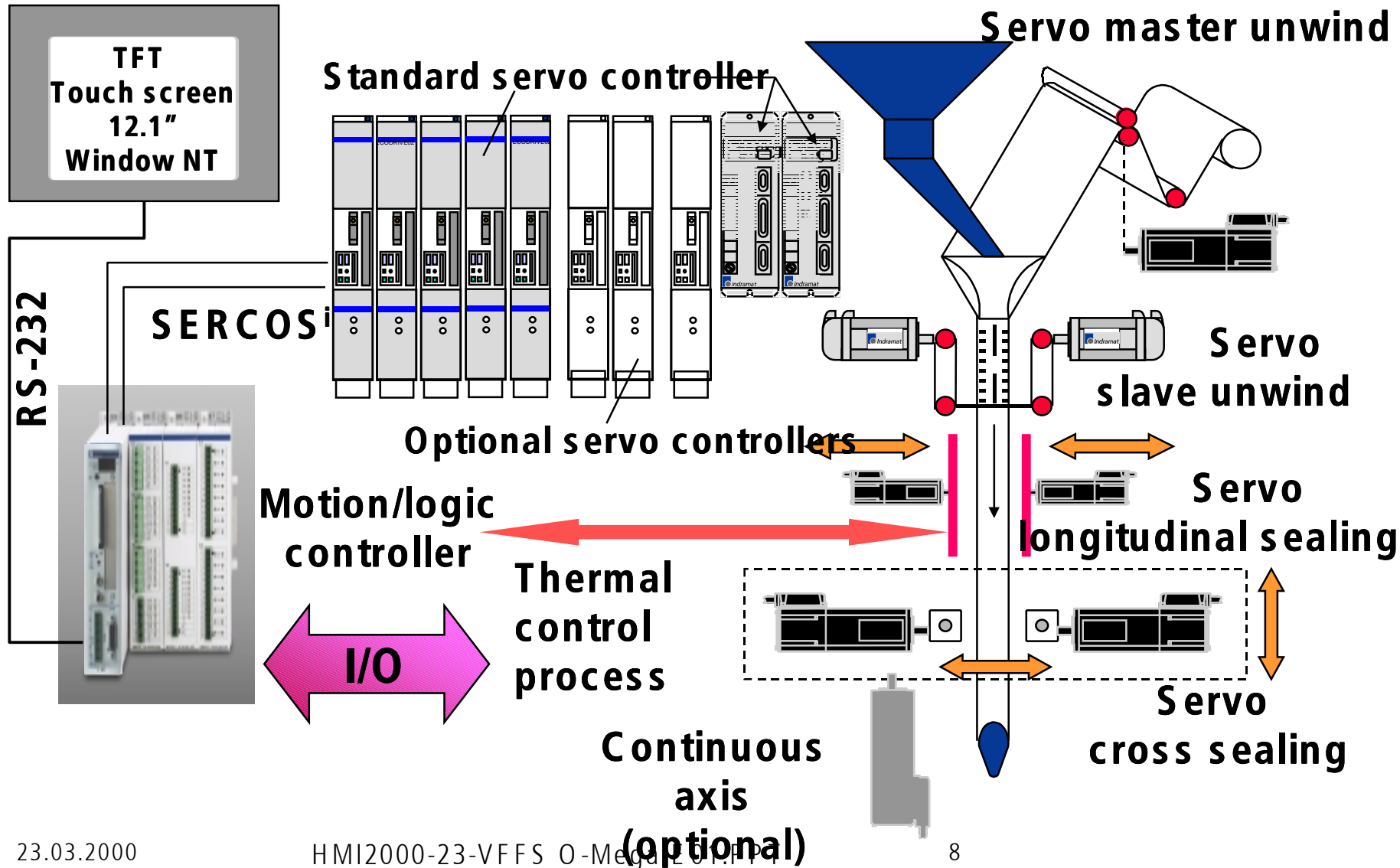


SERCOSⁱ-Application in Packaging

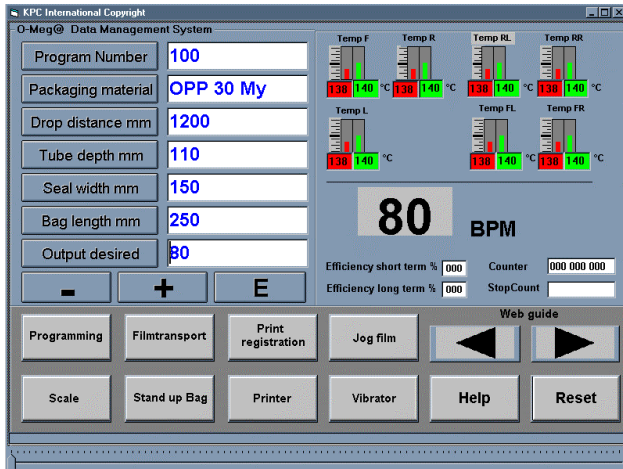
SERCOSⁱ interface allows fast and easy conversion from intermittent operation to continuous motion!



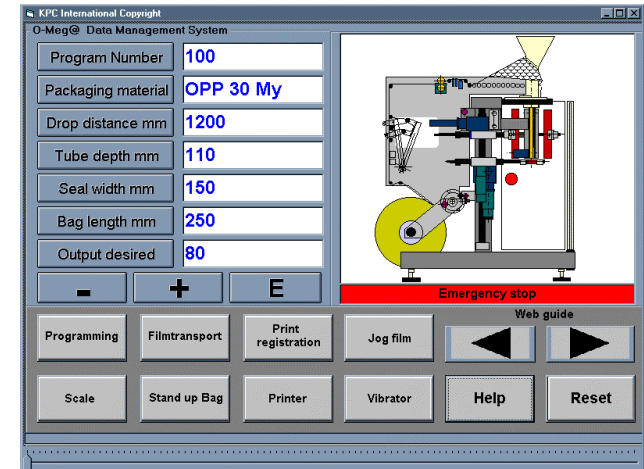
SERCOSⁱ-Application in Packaging



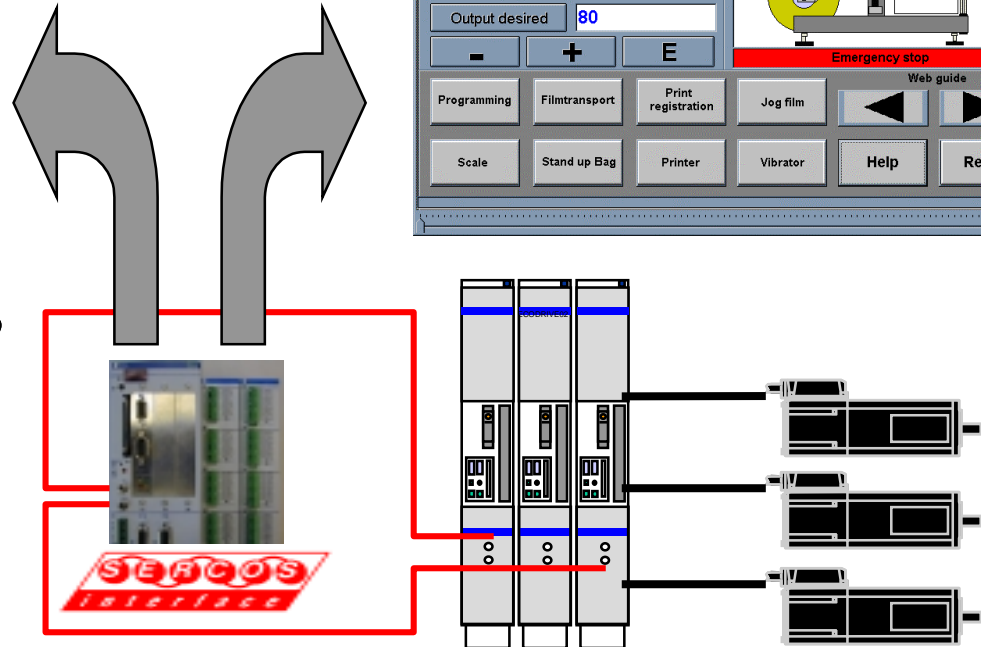
SERCOSⁱ-Application in Packaging



PC-based HMI
for operation and
visualization



SERCOS interface provides
realtime data exchange
for control and visualizing
purposes of all relevant
process data:



Temperature, velocity, torque, parts per minute ...



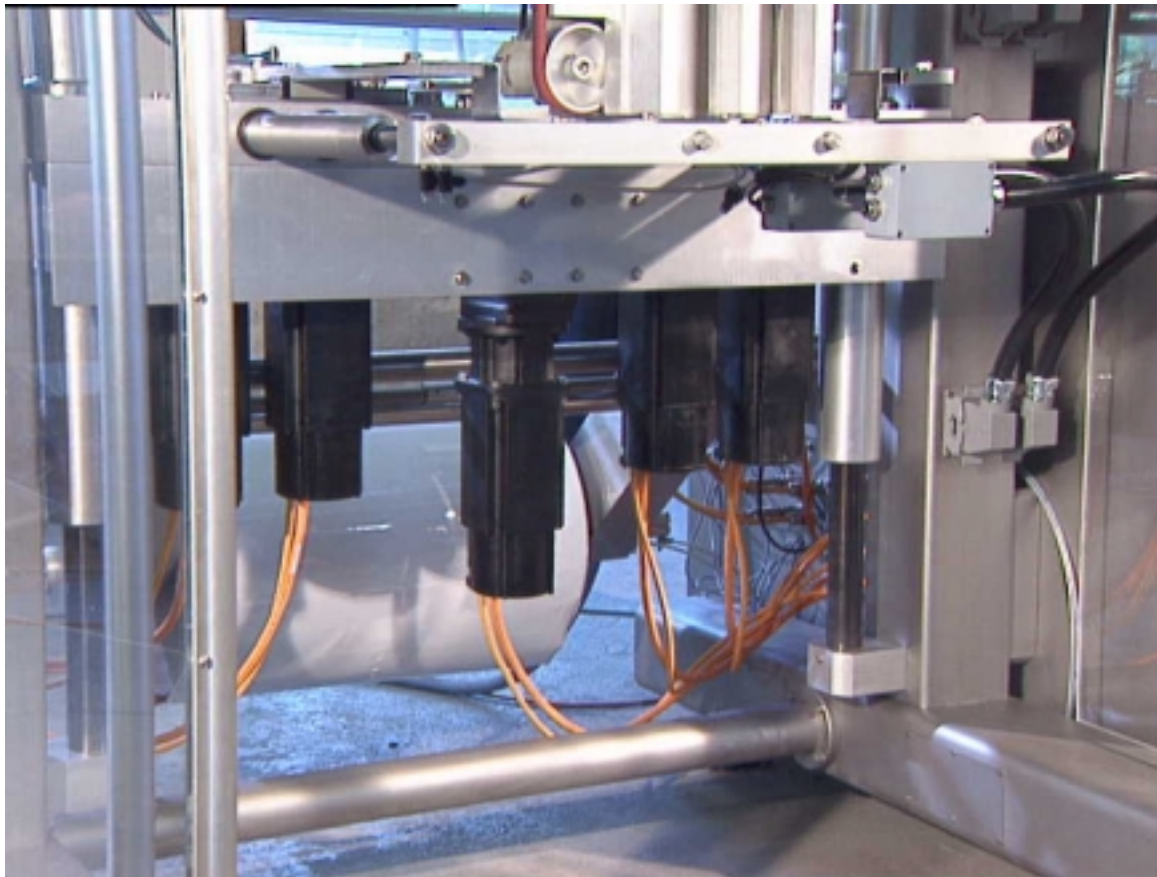
Multiple benefits with SERCOSⁱ!

- For development and construction:
reduced number of hardware components and faster software implementation in application programming!
- For the machine manufacturer:
reduced wiring, less installation cost!
- For the machine user:
reliable diagnostics on digital data link, from operator interface through control down to drive and actor level!
- For maintenance personnel:
reduced number of spare parts, easy exchange of components in case of service!

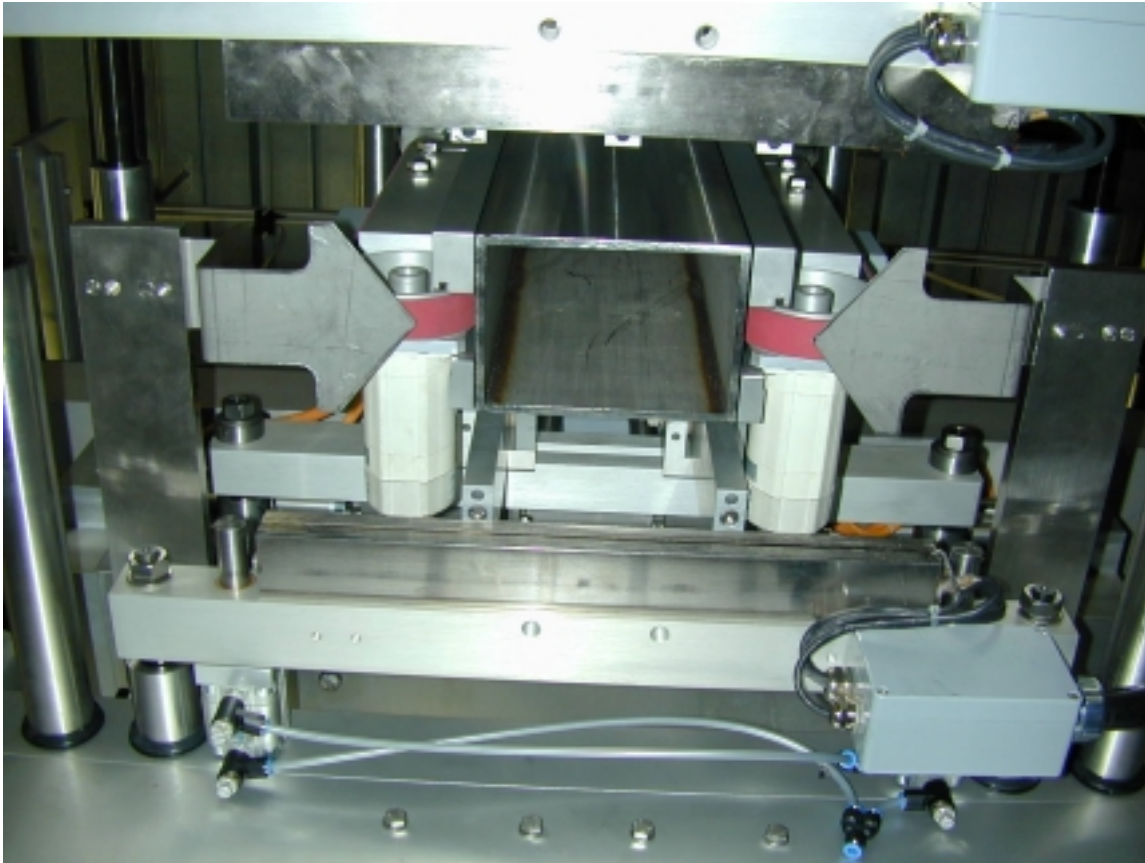
Machine details:



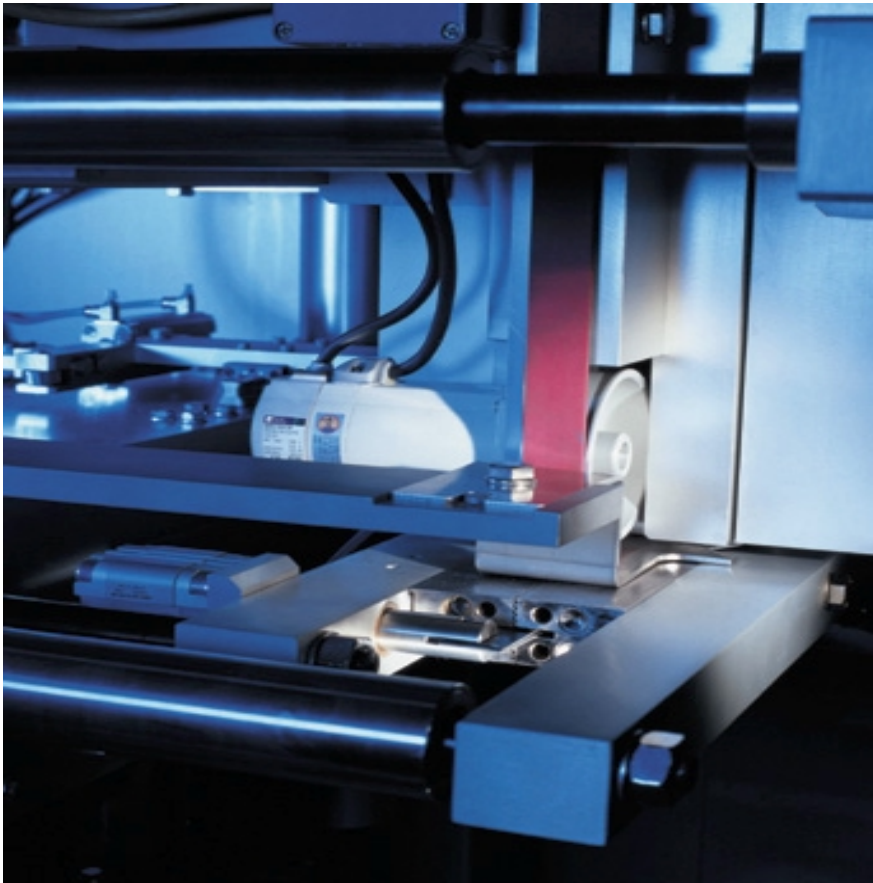
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