Mitsubishi Solutions

Wrapping Machines

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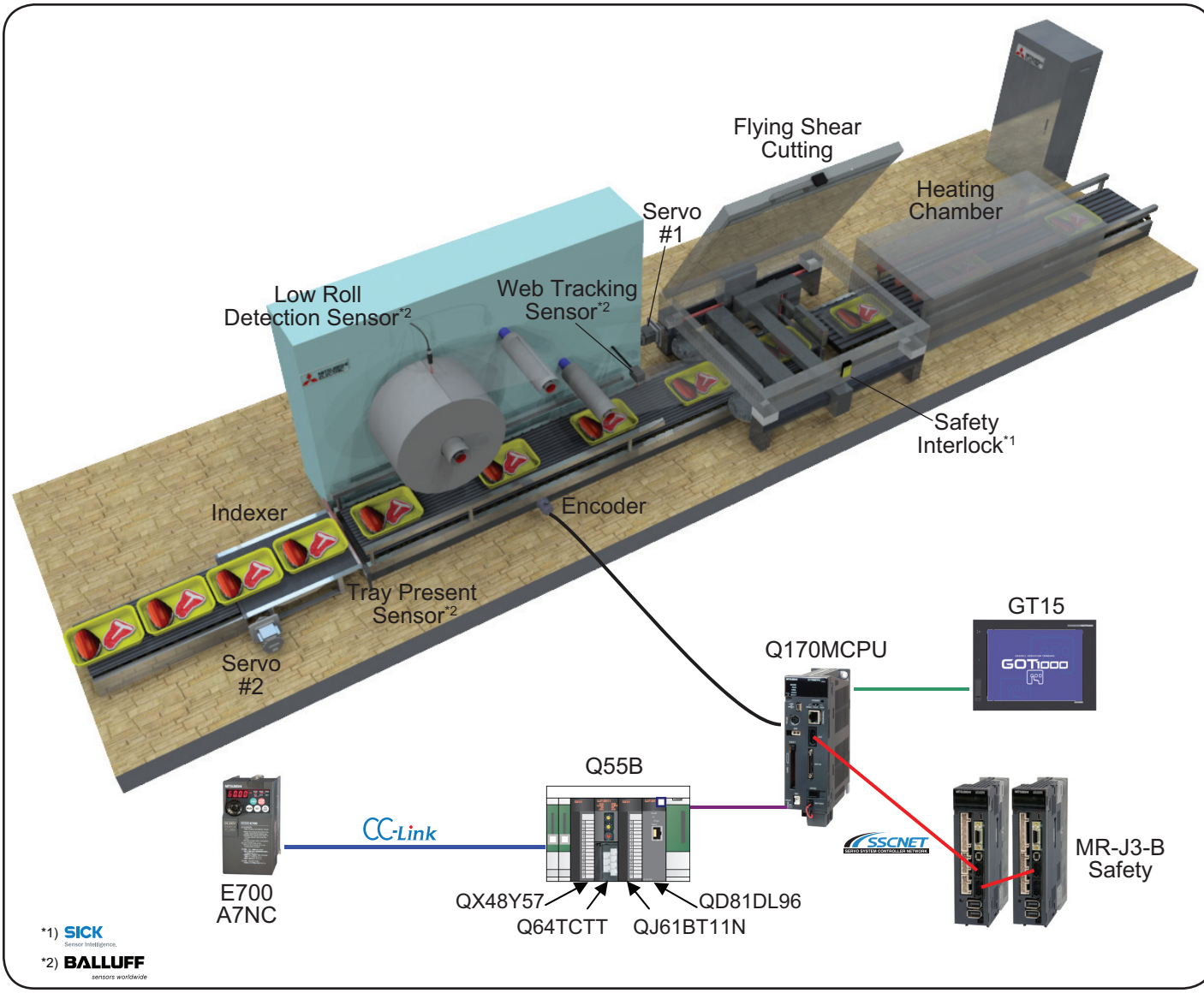
Stand Alone Motion Controller: **Q170MCPU** Data Logger Module: **QD81DL96**
Servo Amplifier: **MR-J3-B** Servomotor: **HF-KP, HF-JP** Graphic Operation Terminal: **GT1555**
VFD: **E700 (CC-Link module A7NC)** CC-Link Master: **QJ61BT11N** Temperature Module: **Q64TCTT**



Example Applications

Wrapping applications in the packaging industry can be used to package a wide range of different products. Example applications include:

- ♦ Bottle & Case Wrapping
- ♦ Box Wrapping
- ♦ Tray Overwrapping
- ♦ Shrink Wrapping

Overview

Wrapping machines in the packaging industry are often placed at the end of manufacturing lines in order to wrap products in plastic film material for shipment. The application highlighted here provides a high-end servo solution for cutting plastic material with a flying shear operation so that products can continually move forward. A second indexing servo axis assists in spacing the products at equal distances on the main conveyor. A large number of wrapping solutions can also be done through combining a series of indexing movements.

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Features	Advantages and Benefits
Continuous wrapping movement: Flying shear servo axis for on-the-fly cutting and sealing	• Improved machine throughput ◦ Up to 125 packages per minute • Less spilling and leakage ◦ Reduced mess
Servo auto tuning: MR-J3 amplifiers tune automatically and continuously without the need to re-tune or adjust during operation	• Reduced machine setup time • Increased machine lifetime • Improved productivity 
Intelligent indexing: Encoder following method to index products accurately	• Reduced waste material • Improved productivity
Visual mechanical editor programming: Easy to set up a visual representation of the system for encoder following	• Reduced labor cost • 30% reduced programming time • Reduced machine cost (less mechanical and electrical components) 
Data logging for lot code and date tracking: Versatile reporting mechanism for improved traceability	• Reduced maintenance time • Reduced cost for data sampling ◦ No protocol converter required
Combined motion controller + PLC • High-speed processing times with direct memory sharing • Built-in I/O and encoder input with mark registration capability	• Reduced overall cost ◦ Reduced inventory cost (only one unit) • 25% improved machine throughput ◦ 0.44ms refresh time for servo network ◦ Industry leading memory sharing speeds
Flexible HMI screen creation • Direct access to Motion Controller memory • Backup/Restore function for easy program access	• Easy to use ◦ Less effort for programming and operating • Reduced maintenance time & cost 
Options for expansion: • Connectivity to SICK Safety Devices • Connectivity to Balluff sensors	• Protection against injury creating safer working environment • Increased machine throughput and efficiency SICK Sensor Intelligence. BALLUFF sensors worldwide

Note: The values listed above are based on a real world application.

MITSUBISHI ELECTRIC
500 Corporate Woods Parkway
Vernon Hills, IL 60061
(847) 478-2100 • www.MEAU.com

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