

The expansion of the EU requires the observance of common standards in many sectors in order to enable fair competition between member states with their widely differing conditions. This was also the reason for the harmonisation of regulations for abattoirs. These standards require abattoirs to meet technical, hygiene, as well occupational health and safety requirements and consequently require these businesses to make the necessary investments. Conveying represents an essential element in the operation of an abattoir. Friedrich Sailer GmbH therefore uses Moeller's easyControl compact PLC for its system controls.

# Easy Meat

## Conveying in Abattoirs with easyControl

### THE COMPANIES

Friedrich Sailer GmbH, based in Neu-Ulm, has been supplying machinery for the food industry for over 80 years. Their major activities involve the development, planning, production and the installation of technical systems. Company strategy is based on the following principles: innovative complete solutions from a single source, optimum price/performance ratio, investment protection with quality and long-term availability as well as customer satisfaction through outstanding service. ([www.friedrich-sailer.de](http://www.friedrich-sailer.de))

The family-run company, renner electric GmbH, based in Neu-Ulm, has been involved in both the electrical wholesale business and panel building since 1965, and has 15 employees. The panel building department, develops, engineers and produces custom solutions including software development. Excellent customer consulting and proximity have the highest priority. In the electrical wholesaler sector, the company offers a high level of consulting expertise. ([www.renner-electric.de](http://www.renner-electric.de))



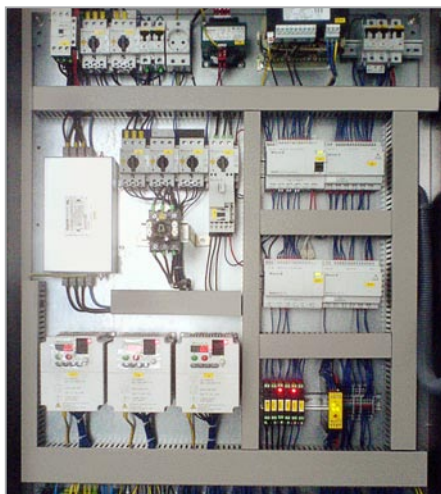
**MOELLER** 

We keep power under control.

### Controlling working processes efficiently

The working processes involved in the abattoir determine the structure of the conveying system. The first station is the stunning area. The stunned animal, such as a pig, is hung on hooks from the hind legs and then taken to the conveying line via an elevator, bled and transported to the scalding station. The animal is then automatically released from the hooks and is dropped into the scalding pan. After scalding the remaining bristles are burned off. It is then taken once more on hooks via the conveying line to the dressing station where the carcass is cut open and gutted. The carcass is split and then undergoes a veterinary assessment in the next station. Depending on the result of the examination the halves are either fed into the precooling room or sent for disposal. The entire process is carried out in individual time cycles.

The conveying device is controlled by the easyControl compact PLC with programming according to the IEC 61131-3 international standard. This compact PLC controls three drives with DF51 frequency inverters, each with a rated output of 1.5 kW. easyControl also controls the pneumatic valves for deflectors and lifting devices. A total of 43 sensor and 43 actuator signals are processed. easyControl is connected to an MFD-Titan multi-function display via the integrated easyNET network. The MFD is used for entering cycle times, recording quantities and visualising any faults that may occur. A remote display without a keypad is used since working conditions require commands to be actuated reliably even with gloves, and so button commands are implemented with RMQ-Titan. Moeller's RMQ-Titan range of control circuit devices



Everything under control: The conveying system is controlled with easyControl. DF51 frequency inverters ensure the correct speed.

can be connected to easyControl without any problems. The easyHMI, i.e. MFD-Titan, can process these commands simply and reliably via easyNet.

easyControl, a product of the Moeller easy device series, uses easySoft CoDeSys and is based on the widely used CoDeSys programming system from 3S. The software integrates all five programming languages in compliance with IEC61131-3 (IL, LD, FBD, ST, SFC), as well as the graphical CFC continuous function chart editor. Projects can also be simulated entirely without the PLC connected, i.e. offline. Other features include its graphical PLC configuration, extensive documentation options, powerful test and commissioning tools, as well as flexible online modification functions and other features. Remote programming is also possible as well as the programming of subordinate controllers in a network.

### Protecting investments sustainably

For Friedrich Sailer, a company that has been supplying abattoirs for decades, and its panel builder, renner electric GmbH, the use of state-of-the-art and future-oriented technologies is of considerable importance, since this business field involves considerable financial investment. Consequently, the companies place particular importance on investment protection, in other words, high quality fail-safe and durable products that can be flexibly upgraded for future developments.

Thanks to its modular design, the easyControl can also be expanded at any time. Remote programming is also possible as well as the



Timed processing: The individual working steps in the abattoir are implemented in the defined time frame.

programming of subordinate controllers in a network. The compact PLC offers a wide range of functions – from integrated OPC server to several networking options via easyNet, CANopen or Ethernet. In this way, data can be recorded in the field or operating data can be provided for other areas such as logistics and documentation.



Remote display: The backlit MFD-Titan display is simply connected to the easyControl with a 5 m cable. Ready-to-use function blocks control the display directly.

## CONCLUSION

Workshop manager Uwe Gravert-Link at renner electric gave the following summary after the project: "For us, easyControl is the ideal controller for a wide range of applications. We are able to achieve a high level of customer acceptance thanks to CoDeSys, the standard programming platform. We are impressed by the wide range of features – from the networking options CANopen, easyNet, Ethernet to the OPC server. In addition to this these controllers offer analog, interrupt and high-speed counter inputs. The advantageous cost/benefit ratio of the entire automation solution

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