

# CASE STUDY

## Installation Technology Specialist Supports Flexible, Automated Packaging

Increasing production figures driven by rising demand would please any business management professional. This happens after certain production volumes are reached, most usually only by the automation of processes. At Murrelektronik GmbH this approach has been taken consistently and successfully for many years. The company applies efficient automation solutions in manufacturing and also found similar solutions for packaging the entirety of its products.

If modern signal and energy distribution systems in machines and facilities were scrutinized more closely, very often Murrelektronik GmbH products would be found.

As a leading installation technology company Murrelektronik provides I/O systems, which can be peripherally installed in a machine and both collect as well as distribute signals. Any type of electrical connection is reliably conducted over a suitable interface to the switch control box, where then Murrelektronik products guarantee efficient supply and distribution of energy.

### A Given: Plug Connector for Any Eventuality

The requisite connection technology here is produced at a manufacturing plant based in the town of Stollberg in the Erzgebirge mountains. Today 380 employees are engaged in development, manufacturing and logistics at a site that in 2012 had more than twice the production and logistics space of the Stollberg location. Since over 17,000 of the various products featuring the connector technology are manufactured here, manufacturing and logistics automation is a compelling necessity. The connector variations include, for example, M8/M12 round connectors, valve connectors or field bus connections. Therefore, Murrelektronik launched an automation offensive encompassing all of its Stollberg Plant divisions several years earlier. Using automated lines for overmolding, checking and for grouting connectors with directly interlinked manufacturing cells and installation systems, the Stollberg teams now manufacture roughly 8.5 million products per year and the trend is growing.

### Wanted: Flexible Packaging

The ever increasing production volumes finally required new approaches to packaging as well. Up until that point, time and labor-intensive manual product packaging in cardboard boxes and pressure seal pouches dominated the field. Now the time came to package

#### Company Name

Murrelektronik GmbH

#### Products Being Packaged

Cable Connectors

#### Equipment Used

Autobag® AB 180™

Autobag® AB 255™

#### Materials Used

Autobag® Bags-on-a-Roll



connectors at a significantly higher speed by using packaging systems operating in yet to be introduced semi-automatic and fully automatic mode. This includes the most diverse cable connectors of the most varied lengths and ready-made or not ready-made connectors in individual parts. In addition, the packaging pouches were to feature labels containing product information and even the installation instructions in the case of individual connectors. Michael Beck, the Stollberg Plant's Industrial Engineering customer service specialist, explains, "As part of our packaging automation drive at the time we searched for flexibly operating pouch baggers. Flexible, since the piece count for a similar product to be packaged could quickly switch from one up to two hundred. At other production plants we had positive experiences with Autobag® machines. After successful sample tests using our products we once again went with this provider."

Several Autobag® AB 180™ and AB 255™ pouch packaging systems from Automated Packaging Systems (APS) are now in use at Murrelektronik. The semi-automatic and fully-automatic AB 180 and AB 255 baggers are mobile and modular. They have a touch screen for settings and accessing operating parameters and jobs. Furthermore, they have integrated diagnostic and help tools. Combined with Autobag bags-on-a-roll they provide an efficient packaging solution for pouch packing with smaller sized products. The AB 180 bagger packs up to 80 pouches per minute in widths up to 11". The Maxibeutel pouch bagger AB 255 can process up to 55 pouches per minute and pouch widths of up to 16". Both machines can be combined with peripheral technology via existing interfaces and integrated into available production lines.

### **Found: Combination Bagger - Printer - Feeding System**

The baggers from APS at the Stollberg plant are combined with APS product feed systems and marker image printers. Michael Beck explains: "We had assigned technicians the job of integrating the available marker printers into the packaging process for purposes of labeling. Jointly we created a solution that so far functions seamlessly."

The thermal transfer printer receives printing data required for this through a network from the Murrelektronik database after the work order is scanned. Logo, product data, barcode, etc. are printed onto the self-adhesive product-specific label, before it is automatically glued to the Autobag pouch, which is as yet unfilled. The packaging pouch is subsequently fed in to be packaged, pre-opened by means of a stream of air and filled using the connector. In the final step the sealing of the pouch takes place. An AB 180 bagger featuring a 'Maximizer' APS product feeder belt carries out the packaging of unmounted connectors. At this juncture the operator places the individual connector parts into the product feeder belt's compartments. The conveyor belt carries the product to an electronic product collection point and subsequently into a collector funnel. The products go through this funnel into the pre-opened pouch, which subsequently is sealed and forwarded on. Simultaneously the next pouch is prepared for the following packing process. The 'Maximizer' makes it possible to collect and count products with a length of 1/4" up to 5" and with a width of up to 3".

The label, which is created and glued on by the printer, also contains the installation instructions for the packaged connectors in addition to the product information. This sensible method eliminates the need for a special enclosure in paper form.

Today at the Stollberg plant approx. 1.2 million product specific pouches with dimensions of 5.5" x 7" up to 12" x 14" annually go through the product packaging process. Customer service specialist Michael Beck sums it up: "Unlike the case of flat foil machines, the Autobag pouches' sealing seams are always reliably and tightly sealed. The APS machines can be easily operated and so far have worked without disruption and are now well integrated into our manufacturing processes."

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