

# Avdel® Assembly Technology in Serial Production

## Optimization of Assembly lowers Production Costs

The use of Avdel® fastening systems installed with hand tools offers advantages in your assembly. The Avdel® Speed Fastening® system for instance places up to 60 fastener per minute. Increased effects can be achieved in serial production by the use of Avdel® workstations and automated assembly stations. In times of strong cost pressure these machines offer important benefits due to optimized assembly processes and the associated potential savings. Avdel® approaches the whole assembly, because there is the largest potential for rationalisation. In fact the actual fastener cost has only a relative small part in the total cost of the assembly.



The assembly stations are either designed for single riveting or allow, as multi-head riveting station, the simultaneous fastening of multiple components in one operation. They are independent workplaces that can easily be integrated into existing processes. The high flexibility is due to the Avdel® platform strategy and the modular design. The conception for each application is carried out according to customer requirements. Depending on the application a variety of different riveting systems can be applied. Even a combination of blind riveting and self-pierce riveting systems is possible.

### Single-head Workstations

The single riveting stations are ergonomic small workplaces where the riveting tool can be operated suspended, in a linear moveable tool stand or built into the workplate. Actuation is feasible by hand release or by a foot pedal. Single riveting stations can be optionally designed as stand or seated workstation. The simple handling supersedes a time consuming training of the employees.

#### Example

An example of a single Speed Fastening® riveting station with rivet process monitoring. After inserting the components the take-up device locks automatically and releases the completed assembly only after the rivetings had been carried out at all specified fastening points.



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### Multi-head Assembly Stations

Multiple riveting stations increase productivity and output by simultaneous installation of several fasteners. Compared to the manual riveting the assembly is far faster. The user only handles the components, and integrated component fixturing provides a fast and exact positioning of the components. Twisting does not occur because all rivets are placed at the same time. Tolerances are maintained and finally the quality of the end product is increased. Due to the use of the quick Avdel® Speed Fastening® technology the assembly process obtains an additional optimization.

#### Example

A multi-head station with two riveting modules is shown in this example. The riveting pitch can be continuously adjusted. The compact machine uses the Avdel® Speed Fastening® technology, which allows continuous assembly. The machine provides the blind rivets automatically out of the magazine. Due to the foot release the hands stay free for component handling. This assembly station can be designed as stand or seated workplace, ESD construction is an option.



### Automated Assembly Stations

Avdel® automated assembly stations are designed for the use in automatic production processes. The machines are modular built and the single components are linked by flexible, plug-type connections. The rivets are transferred via the blow feed unit. During operation processing diagnostics of all functions can be provided by sensors. All parameters are shown on a clear and simple control display. The modular design allows a high reusability during component modifications or model change.

#### Example

In this assembly station 12 blind rivets are placed simultaneously. The rivets are fed automatically. Positioning devices can be omitted, because the presented rivets serve as component take-up. By using this machine the assembly time was reduced by 75 %.

