



Industry: Machine Tools
Increased ergonomics and safety for manually-operated joining and press systems

Waldkirch/St. Georgen, Tour Stop No 20 2010 - The new generation of light curtains protects manual workstations in joining systems, offers great ergonomics, is easy to integrate and supports modern machine design.

Challenge: Safety

SCHMIDT Technology is a medium-sized company whose areas of operation include recording technology, flow sensors, and pressing for joining, reshaping, mounting, shaping, riveting, punching, cutting or dressing. The workflows on the SCHMIDT® ServoPress series joining systems can be implemented with forces of up to 250 kN and slide strokes of up to max. 500 mm. Therefore, in order to provide operable individual workstations on the machines, where the machine operators insert and remove the components manually, protective equipment with the highest safety level was required. The solution has also to allow ergonomic workflows and visually indicate the protective function to the operator. In terms of design, the safety system had to be integrated in a visually appealing way in the top-quality, state-of-the-art design of the ServoPress series. The safety light curtain recommended by SICK during the project consultation phase fulfills all these requirements.

Design award-winning safety light curtains protect press operators and make machine operation easier

To fulfill the requirements, SICK recommended a safety light curtain (miniTwin4), which offers the maximum safety level at Performance Level PL "e" as per EN ISO 13849-1 or SIL3 to EN 62061. The innovative symmetrical system, which for the first time unites the sender



and receiver in the same housing, could be configured to the right length, and thanks to its extremely compact dimensions and intelligent connection concept, it was easy to integrate in the machines. Different integrated status LEDs support commissioning; during press operation, they confirm to the operator that the system and the protective field are active. The displays are even easy to see if the safety light curtain is integrated flush into the machine for design reasons, as this was the case for SCHMIDT Technology. This mounting method also protects against misalignment and increases operating ergonomics further.

Customer Benefit:

- Simple integration and commissioning without software saves time and costs
- Space saving due to small size without dead-zones at the end of the curtain reduces additional mechanical efforts
- Visualization of operational status and the protective function increases safety for operator
- The sensor Twin-concept increases the economy of purchase, operation and service

SICK's safety light curtain provides a solution which meets all requirements made by SCHMIDT Technology. At Performance Level PL "e" as per EN ISO 13849-1 or SIL3 to EN 62061, all safety requirements relevant for ServoPress are fulfilled. The intelligent connection concept and the look of the multiple design award-winning housing not only permits visual integration into the presses, but also ideal, and therefore cost-effective mechanical and electrical integration. Also, the flush mounting and display of the system function via the integrated LEDs guarantee maximum acceptance and ergonomics for operators, which has a positive effect on the performance of the presses. As the sender and receiver are in the same housing in the system concept of this light curtain, SCHMIDT Technology benefits from the Twin-design, with the fact that just two units of the same material number are required. This reduces the logistics costs for ordering and stock supply, and should servicing be required.