



From customer inquiry to new safety standard in mechanical engineering

The balance between productivity and machine safety has been a perpetual challenge for every company in the mechanical engineering sector. In order to maintain this balance without neglecting the safety of operating personnel, HOMAG and ASO Safety Solutions joined forces to plan and develop a safety concept for the BMG range of CNC machining centres. The result meets both the requirements of the customer for high-tech machinery and the ambitious wish list in terms of design.

As a pioneer in the woodworking industry and a quality leader in its market, the HOMAG Group regards innovation as a commitment to the customer. Part of the innovation process is listening to requirements and meeting them in groundbreaking products. Groundbreaking not only in terms of productivity and efficiency, but also in terms of safety and user-friendliness. In order to be able to guarantee this combination of safety and productivity, ASO GmbH developed tactile sensors for HOMAG for inbuilt safety in its BMG 100/300/500/600 ranges.

Maximum radius of operation thanks to SENTIR bumper

SENTIR mat contact mats are often used for applications like those at HOMAG where they are laid in a row and monitor the area in front of a machine, acting as a familiar method of guaranteeing safety.

„We wanted to enable open access to our machines. Large and heavy items routinely need to be positioned,“ explained Carsten Kanitz, Product Development CNC Processing, „and materials have to be transported to the machines on pallets or trolleys. Contact mats are a very reliable and safe way to protect entire areas, but we wanted to offer machine operators more comfort and more flexibility and allow them to use the machine without the interference of floor mats.“

So it quickly became clear that the obvious way forward was the SENTIR bumper safety contact bumper. Safety contact bumpers are used wherever sensors are expected to have long and convoluted travel distances. If the machine operator and machine gantry should collide, the sensor in the contact bumper will send a signal to the machine control unit and will, for example, trigger an emergency stop of the machine. At the same time, the bumper acts as a cushion, absorbing the impact and preventing worse things from happening.



Paradigm shift in bumper construction: full protection for entire front machine housings

Both the quality and the design of the HOMAG bumper are processed and finished to the nearest millimetre. The classic method of building bumpers is to make the height much greater than the area of the bumper. In this case, however, it was important to protect the entire front of the relevant machine consoles – a small paradigm shift which inevitably led to a complete rethink of the construction of the SENTIR bumper at ASO.

„At a mechanical level, one of the greatest challenges was to keep the switching action of the bumper constantly sensitive over its entire surface,“ said Markus Horstkemper, Head of Development at ASO, explaining the challenges of the project. „The interplay of all the materials is important here, starting with the special cover right through to the modified sensor elements.“ The demands on the outer covering in terms of resistance and mechanical properties of the SENTIR bumper therefore prompted ASO Safety Solutions to leave well-trodden paths and to try out a different route.

Evolution of a partnership

Change is an inevitable process on the way to perfection. This is why HOMAG and ASO must also keep working constantly on the improvement and optimisation of the components, the interaction between man and machine, and on issues of logistics.

ASO will be by the side of the HOMAG Group at all times as a Partner in Performance, offering both advice and practical support.

Company:
HOMAG Group

Location:
Schopfloch

Sector of industry:
Mechanical engineering

Products and services:
Woodworking systems, remote maintenance, servicing, assembly, repairs

Number of employees:
6000

Internet address:
www.homag.com

Brief and objective:
To equip CNC machining centres with an inexpensive and yet high-quality safety solution

Solution:
SENTIR bumper surface switch sensor

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