

## ASO Safety Solutions – At the Cutting Edge

ASO Safety Solutions has been established for over 40 years and is today the world market leader for tactile sensor technology.

Regular exchanges and feedback from customers has enabled the company to align production and sales with real customer requirements. Investment in research and development has allowed ASO to meet growing requirements in industry and society. ASO Safety Solutions pride themselves on innovative thinking and dynamic development processes that make them an industry success.

ASO addresses the major challenges of globalisation by concentrating on core competences, by carefully adapting its operating structures and systematically expanding its international presence. Today, there are 200 employees worldwide, who manufacture safety contactors, controls and customer-specific sensor solutions. In addition to the company headquarters in Germany, the USA and China, sales offices all over Europe and a worldwide dealer network are responsible for worldwide sales.



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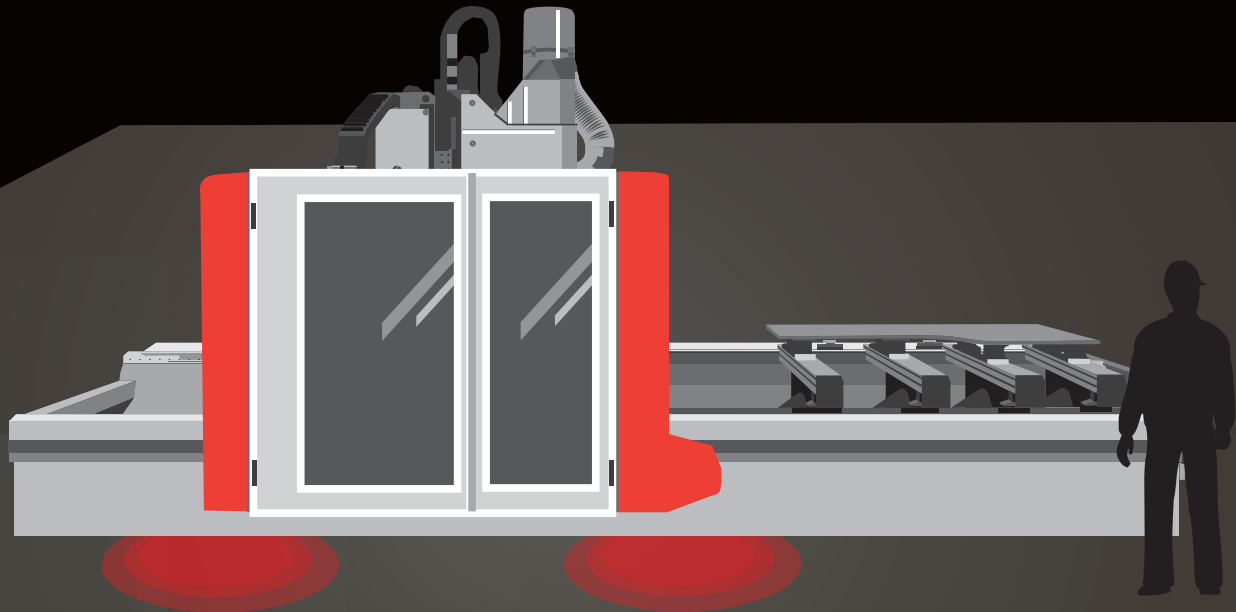
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# Safety for CNC Machines



Information for Manufacturers  
and End-users of Machining Centers

**ASO** Safety  
Solutions

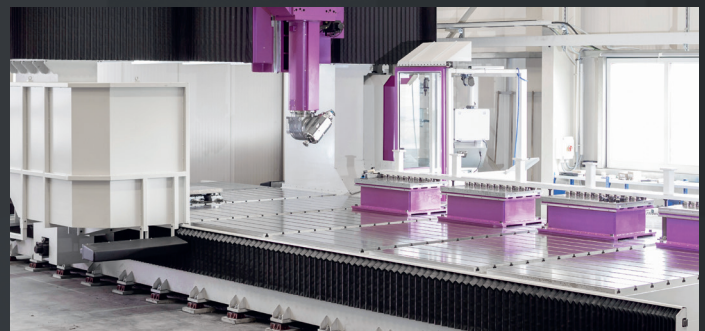
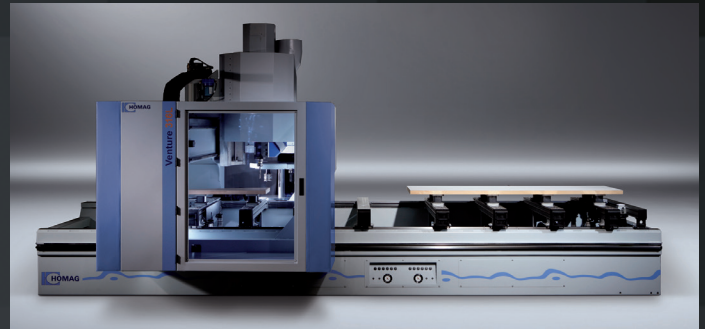
## CNC Machines with Gantry Mills

We understand that maximum speed means increased efficiency. The **SENTIR bumper** contact bumpers provide 100% operation protection and continued machine processing at reduced speed when the defined safety zone is entered. An immediate stop signal is triggered when direct contact is made in the acute hazard area. The over travel distance of the gantry and the allowed forces are also taken into account.

Multi-zone workspaces with hazardous areas will benefit from **SENTIR mat** contact mats. Skilled operators of milling, pressing, turning or welding machines can pick up finished parts at full speed. When the safety zone is entered the contact mats will reduce the speed of the gantry and if the danger zone is triggered the mats will trigger an immediate stop.

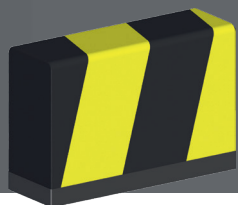
Utilise your surface area to the maximum with the use of **SENTIR** sensors. No additional protective enclosures are required and the sensors aren't triggered by machine fall-out, vibrations or other ambient influences. Just like the **ELMON** series of additional evaluation units, the **SENTIR** sensors reliably switch off during actuation.

Whether standard or individual product design, almost everything can be implemented and adapted to customer requirements. This can be illustrated by the example of the large-area **SENTIR bumper** for the HOMAG Group.



Take a look at how the HOMAG Group is counting on ASO in the area of CNC machining:

[www.asosafety.com/references](http://www.asosafety.com/references)

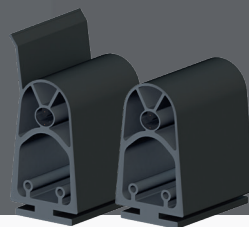


**SENTIR®**  
*bumper*

Contact buffers

### **SENTIR bumper**

- Robust design due to flexible and durable synthetic leather
- Large variety of standard bumpers
- Fast realization due to 100% inhouse production
- Individual mounting and connection possibilities



**SENTIR®**  
*edge*

Contact edges

### **SENTIR edge**

- Huge selection of standard products: 96 existing contact edges
- Patented double chamber system for high durability
- Accelerated response
- Rating up to IP 68
- Low wiring requirements

# Closed CNC Machines

Fast opening and closing automatically operated doors save time, however if they aren't fitted with safety edges they could cause entrapment. **SENTIR edge** contact edges have a patented double chamber system that protects the internal switching chamber from external mechanical influences. When activated, the trigger immediately stops or reverses the doors. Radii and bend angles enable precise integration into the door and machine designs with the **SENTIR edge**. In addition to the broad portfolio of dimensions available, customized profiles to meet the individual needs are also available e.g.: translucent material that can be illuminated by LED strips.

**SENTIR mat** contact mats from ASO protect against hazardous situations caused by moving parts, either in front of or inside the machine. The presence of an operator is detected in a variety of settings by the contact mat.

**ELMON** safety relays offer a reliable link between safety sensors and PLC. They can be customized to suite the individual customer requirements.



## SENTIR *mat*

- Maintenance-free system, easy to clean of dust and dirt
- High moisture resistance (IP65)
- Withstands more than 6 million activations
- Individual dimensions and shapes possible

**SENTIR<sup>®</sup>**  
*mat*

Contact mats



**ELMON<sup>®</sup>**  
*relay*

Safety relays

## ELMON *relay*

- Reliable link between the signal transmitter and the control unit
- Various housings
- Universal use due to various adjustment possibilities on the device and suitability for several voltages
- Different safety categories available, up to Cat.3 / PL e