

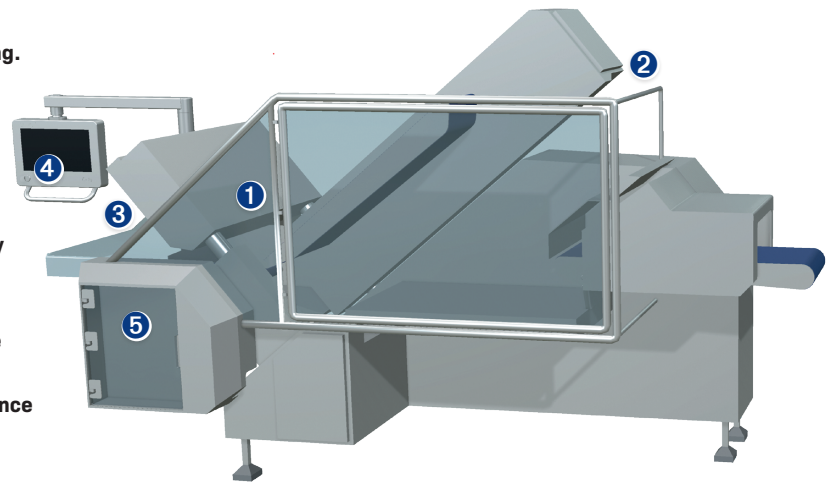
SAFETY TECHNOLOGY FOR SLICING MACHINES

APPLICATION PACKAGES

Meat processing machines, especially slicers, are indispensable appliances in food processing. They enable precise and efficient preparation of meat products.

Despite their usefulness, they pose significant risks to operators. Sharp blades and moving parts can cause serious injury if suitable safety measures are not taken.

At Schmersal, we understand the importance of safety in the food industry and offer tailored solutions to minimise risks and ensure compliance with relevant safety standards.



HAZARDOUS POINTS

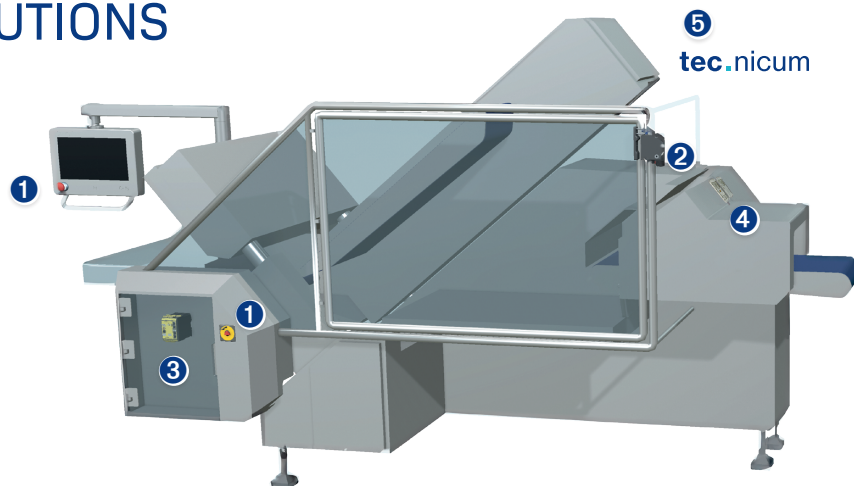
- 1 Sharp blades:** The blades / knives of a meat slicer are extremely sharp and can cause serious cuts if not handled or maintained properly. They are particularly dangerous during operation and cleaning.
- 2 Moving parts:** In addition to the blades, there are other moving parts that can cause crushing and cutting injuries, e.g. a cutting chute that swivels upwards. These parts are often difficult to access and can be dangerous in the event of maintenance or malfunction.
- 3 Cleaning processes:** There is an increased risk during cleaning of the meat slicer as protective devices may have to be removed or bypassed. Unprotected blades and other sharp parts present a particular danger in this area.
- 4 Hygiene risk due to cross-contamination:** If components and parts are used that have not been developed according to hygienic design principles, there is a significant risk of cross-contamination. This can happen if food residues accumulate in hard-to-access areas or if materials are used that are difficult to clean. Such contamination can lead to food poisoning and other health problems. It is therefore crucial that all parts of the meat slicer are hygienically designed to allow easy cleaning and disinfection and to minimise the risk of cross-contamination.
- 5 Electrical hazards:** Electrical components of the meat slicer can cause electric shocks if improperly handled or maintained. It is important that all electrical parts are properly insulated and maintained.

RELEVANT STANDARDS

DIN EN 16743	Food processing machinery - Automatic industrial slicing machines – Safety and hygiene requirements
DIN EN 1672-2	Hygiene and cleanability requirements for food processing machines
DIN EN ISO 14159	Hygiene requirements for the design of machinery
DIN EN ISO 13849-1	Safety-related parts of control systems
DIN EN ISO 13857	Safety distances
DIN EN 60204-1	Safety of machinery – electrical equipment of machinery

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SCHMERSAL SOLUTIONS



1 The "H" program: Emergency stop switch on the control panel and machine ON / OFF main switch

- Hygienic certified design
- Easy cleaning due to minimal dirt access and IP69K
- Simple assembly concept with central nut and plug-in contact carrier
- Visible, blue, hygienic gaskets
- High-quality, hygienic and chemical-resistant materials
- Long-lasting individual symbols created using laser processing



2 Solenoid interlock AZM300

- Symmetrical mounting for right- and left-hinged doors
- Hygienic design
- Degree of protection IP69
- Can be used as end stop
- Individually coded version with coding level "High" according to EN ISO 14119
- Holding force F_{max} 1,500 N
- Integrated latch with two selectable latching forces (~25 N / ~50 N)
- Emergency exit, emergency release or manual release
- Power to unlock / Power to lock



3 Safety controller PSC1

- Connection for all standard safety relays up to PL e and SIL 3
- Modular expansion with up to 272 inputs / outputs
- Safe drive monitoring (SDM)
- Safe remote I/Os via Ethernet Safety Device to Device Communication (SDDC)
- Safe cross communication via Ethernet Safety Master to Master Communication (SMMC)



4 Safety sensors BNS 40S or RSS36

- Completely enclosed stainless steel enclosure
- Degree of protection IP69
- Suitable for food processing industries
- Connecting cable suitable for the food-processing industry
- Concealed mounting possible
- Long life
- No mechanical wear
- Insensitive to soiling
- Insensitive to transverse misalignment
- RSS36: individually coded version with coding level "High" according to EN ISO 14119

5 tec.nicum- Solutions & Services GmbH provides comprehensive support to food machinery manufacturers in risk analysis and the creation of safety concepts. Here are some of the main services offered by tec.nicum:

- Risk assessment and analysis
- Creation of safety concepts
- Training and further education
- Consultancy and support during implementation
- Documentation and certification



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