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Seydelmann reliant on hygienic cross switches for its operator terminals

HAND OR KNEE OPERATION

Machine manufacturer Seydelmann has chosen the cross buttons and cross switches from Schmersal's N range for its control elements, devices that are both hygienic and robust and that have been sealed multiple times to guard against jet water. In addition, the Stuttgart-based machine manufacturer is also currently testing a cross switch that can be operated with the knee.

Machine manufacturer Seydelmann develops and produces a range of different sized cutters, mixers, grinders and emulsifiers. In the design of these high-quality stainless steel machines, developers have placed special emphasis on optimal flow dynamics. In addition, the products also satisfy the stringent hygiene requirements of the food industry.

Ergonomics and hygiene in focus

The man/machine interface, the control panel, also hails from the company's own production lines. In addition to a hygienic design, developers also considered the ergonomics of the control panel very carefully. 'The user must be able to use all of the machine's functions without having eye contact with them,' explains Jochen Sauter, head of the electrical department at Seydelmann. 'To achieve this objective, we opted to use the ergonomic cross lever

buttons and switches from Schmersal's N range,' he adds.

The hygienic cross switches in the NK range can move in four directions to trigger a range of functions — forwards, backwards, right and left. Each switch is assigned a range of functions that are logically connected to keep machine operation as intuitive as possible. 'With the electronic configuration, we have also ensured that users are not able to activate multiple functions in combinations that do not fit together,' explains Sauter. This helps to minimise the risk of operating error.

Developed with the food industry in mind

Schmersal has developed the control elements in the N range with the food industry in mind, basing all of its designs on the hygiene requirements principles for food processing machinery contained in



standard EN 1672-2. As such, the geometry of the control elements features no corners or edges to allow for thorough, residue-free cleaning of the device heads and to avoid the risk of cross contamination. The materials used are also particularly suited to use in food production. The N range includes push buttons and illuminated buttons, short-stroke buttons, selector switches and emergency-stop command devices. The hygienic design of products in the N range has been confirmed by a type examination with the 'hygiene' test certificate issued by Fleischeri-BG as well as through certification by the 'Nahrungsmittel und Verpackung' inspection and certification body of the DGUV for hygiene-sensitive applications.

Harsh environmental conditions? No problem!

Smooth contours and surfaces are just one aspect of hygienic design. Since food processing machinery requires frequent cleaning, control elements must be protected from the ingress of water and moisture, a



An employee operates the Seydelmann K1004 cutter. Various cross switches are available for the different functions of the machine.



The NK cross switch, at the bottom left of the control panel, can be moved to up four positions: top, bottom, right, left.



Benefit of the knee switch: users can continue to use both hands while operating the switch.

particularly important characteristic in the meat industry, where extremely intensive cleaning processes are part of the daily routine on account of stringent hygiene requirements. In view of this, the entire N range satisfies the requirements of degree of protection IP 69 K, i.e. complete water tightness inside the housing when the device head is exposed to a 100 bar 80°C water jet on all sides. The NK cross switches also boast high degrees of protection - IP 69 K for the front plate and IP 67 for the contact chamber, making them suitable for cleaning with powerful water jets and high-pressure cleaners. Since the switch is water tight, a water-tight enclosure is unnecessary and the cross switch can be easily integrated into a standard machine enclosure.

Hygienic knee switch in testing

Seydelmann is currently testing a special control element on a machine prototype in the form of a knee switch. The switch was developed by Schmersal as part of a lean-

production project and, as its name suggests, is suitable for operation with the knee, allowing the user to continue to use both hands while operating the switch. 'The first tests were very positive and those who operated the prototypes were extremely satisfied,' explains Sauter. In hygiene-sensitive environments, a knee switch may be a better alternative to a foot switch. A foot switch also frees up the user's hands for other activities, but to operate the foot switch, the user has to lift his foot from the floor or foot support. The knee switch helps him to maintain stability by keeping both feet firmly on the floor.

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