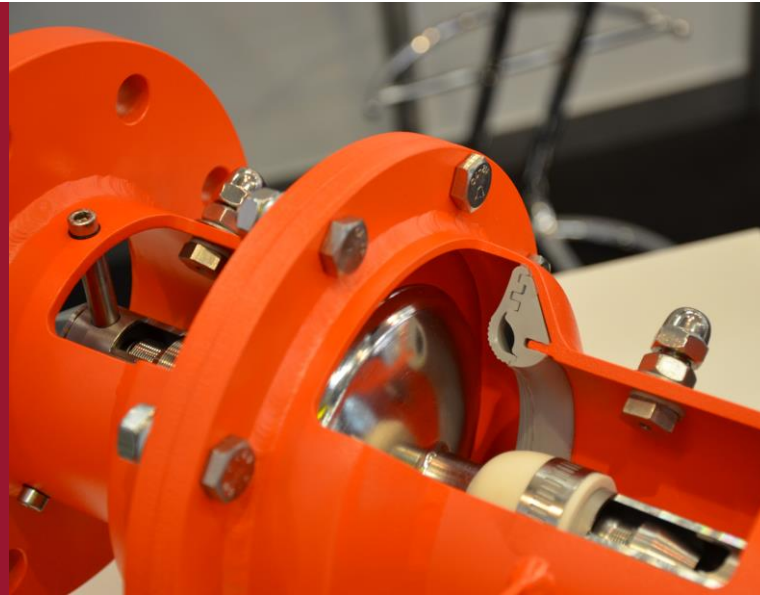


## Safety and purity in the food industry

*Swiss RICO Sicherheitstechnik AG equips  
facilities of the food industry*



Hygiene conditions and the protection from contamination of any kind are an absolute necessity in the food industry. Caution is advisable in two respects: On the one hand, during the processing of powdered raw materials or granules, there is an increased risk of explosion, as the materials can easily explode in combination with oxygen and an effective ignition source. Of course, the employees must be protected from this. On the other hand, the safeguarding of an optimal quality in the food industry is essential for purity during the production. In case of a filter replacement for instance, the highest possible degree of safety has to be provided to prevent any possible contaminations during the production process.

### **Thermal load as a risk factor**

Especially the production of powders often requires technologies that expose materials to a high stress – resulting in the risk of dust explosions. With the appropriate precautions though, the danger of consequential damage can be reduced significantly. At this point, the use of a VEN-TEX® valve for explosion isolation is the right choice: in case of emergency, the closure of the affected pipe, which connects the different plant components, happens within the fraction of a second. The pressure wave resulting from the explosion presses the closing device within the valve to the closing device seal and therefore prevents the propagation of the explosion. Particularly the recently devel-

oped explosion isolation valve VENTEX® Type 6 has crucial functions: Apart from the tried and tested capacities of its predecessor models, RICO Sicherheitstechnik AG included an innovative sealing profile with a cavity in the valve. Therefore, in case of an exchange, it is neither necessary to grind the valve in nor is the adjustment of the responding gap dimension difficult. The enlargement of even the smallest gap is reliably prevented, since the seal adapts perfectly to the flexibly running processing conditions. Should the explosion isolation be triggered off, a new type of unlocking device of VENTEX® Type 6 promises a quick restart, for the opening of the valve only requires very little effort. This shortens business interruptions and reduces economic losses distinctly. The solution's minimal closing pressure can be controlled with a closing tool with an integrated torque display – these supervisory functions can easily be handled by certified experts.

Another possibility to prevent the spread of an explosion effectively is constituted by explosion isolation slide valves. The systems of the product line RICO Slide Valve RSV are activated by an external source of energy and prevent as well the spread of an explosion to adjacent plant areas. The fast closing RSV Slide Valve is especially suitable for pipes carrying dusts, where a pressure drop and obstacles

would be particularly undesirable. The function of this solution is based on activation through pressure or rather flame sensors that detect an explosion within milliseconds. After that, a number of gas generators are activated, depending on the size of the slide valve. Because of the resultant pressure, the isolation is induced. What's more, the protective effect is duplicated to stop explosions from both sides equally effective. The RSV-P-Slide Valve has also made an outstanding contribution to the use in the pharmaceutical industry. The stainless steel case is very easy to clean and hence enables a high hygiene standard in the product contact areas (CIP) as well as on outer product contact surfaces (WIP).

### **Clean Production through gastight butterfly valves**

The 100% gastight butterfly valves of RICO Sicherheitstechnik AG ensure another important fact regarding the ideal processing of food. The valves are able to control the air circulation within ventilation ducts. If the butterfly valve is closed, the absolute sealing of the pipe can be ensured. The materials used – like stainless steel or aluminium - are also very convenient to clean and thus offer another advantage. The butterflies can be positioned as desired either manually or via pneumatic or electric drive. The PERFECT version

– when installed – allows a check for sealing at any time using a hand pump and pressure gauge, building test pressure with a recessed control groove. In addition to that, the seal installed to the butterfly ensures that no pressure can escape. Butterfly valves with an ATEX certificate (94/9 EG) are also available if required; this will ensure that the product will not become a potential ignition source in areas of risk.

Next to the security of the employees, the purity of the production as well as the processed raw materials is given high priority. In the consumer's interest, the end product must be of the highest quality and cannot contain any kind of pollution. The European Commission and also for example the American Food and Drug Administration (FDA) see to it that the production process proceeds according to the guidelines. Here, the focus is especially on the factors hygiene and product quality. The fulfillment of the directives is therefore the plant engineer's responsibility, which can satisfy all the required guidelines with the use of suitable protective mechanisms.