Explosion Isolation.
No matter what happens - nothing happens.

Explosion Isolation Valve VENTEX®
Explosion Isolation Slide Valve RSV
Explosion Isolation Flap Valve REDEX® Flap
Explosion Isolation Slide Valve REDEX® Slide
Certified Quality
RICO Sicherheitstechnik AG

Constantly enhancing your safety – this has been our goal for RICO Sicherheitstechnik AG since 1988. We have developed a wide range of products to provide effective protection against the spread of explosions in industrial systems and our butterfly valves close off ventilation ducts, providing a 100% gastight seal. By applying the highest standards in terms of quality and functionality of our technology, we develop products you can trust.

Swiss quality in worldwide use.
As a global company with Swiss roots, we support well-established businesses in various industrial sectors worldwide, providing expertise, service and top-class products. In the explosion protection market we have a worldwide network of system providers at our disposal, each one of which is specialized in optimum operational protection concepts. With support from agents and commercial partners, we market our 100% gastight butterfly valves in various countries around the world.

Every employee is a specialist.
We meet ambitious targets with optimum performance: RICO employs an experienced and trained team of engineers, administrators, CNC operators, fitters and certified welding experts. With this pool of expertise, we work continuously to enhance the high quality and innovation of our products.

Experience engenders trust.
Our many years of experience mean that we are familiar with the needs of our customers in a wide variety of industries and can respond flexibly to their wishes. We help companies to choose the right components and develop tailor-made special executions.

Consistent quality management.
RICO Sicherheitstechnik AG is certified according to EN-ISO 9001 and ATEX directive 94/9/EC respectively since 2014 according to 2014/34/EU. In the explosion protection sector we see it as a natural requirement that an ATEX CE examination is carried out for every single execution.

Quality cannot be taken for granted.
It is the result of focused work and careful control. At RICO, we are very conscious about this. After all, our products are used where it really matters. And to make sure that nothing happens when something happens, we are especially meticulous in our development, certification, production and testing. During development, we make sure all processes are designed according to cost aspects but in line with safety criteria. Only the best materials are used in production. When it comes to certification, we only have our products certified where testing is especially rigorous. And our quality assurance calls for the very best quality from our partners.

Our quality guarantee.
Whether you contact us or one of our partners, we always want you to receive the best possible service. This is the reason why we work with our partners for several years and make sure that they get to know our products as well as we do. We provide information about our products, innovations or changing principles and requirements in training seminars that we hold on a regular basis. The Service App developed by RICO offers you further assistance. It helps you to document and manage service intervals and maintenance work. This helps to ensure the functionality of RICO products throughout their lifetime. With certified quality of RICO, we make sure that our customers are safer.
If the preventative protection measures are insufficient to reliably prevent an explosion, design measures have to be worked out. Apart from some defined exceptions, this calls for the use of explosion isolation components to protect persons and systems against damage or injury – irrespective of whether the system is explosion pressure resistant designed, suppression devices are used or relief components have been defined at the vessel.

Explosion pressure resistant design.

In order to protect the vessel or apparatus against the effects of pressure from an explosion, it is possible to use an explosion pressure resistant design for the maximum explosion pressure. The explosion is consciously taken into account.

Explosion suppression.

Sensors detect an explosion in the system within few milliseconds. They send a signal to the control unit, which opens pressurized containers and allows extinguishing agent to be sprayed. This stops an explosion right at the start.

Explosion pressure relief.

The pressure of an explosion is directed out of the system via relief components (with or without flame), for example rupture disks. The so-called reduced explosion pressure is smaller than the maximum explosion pressure. Explosion pressure relief prevents the build-up of an unacceptably high explosion pressure in the vessel and apparatus.

Irrespective of what explosion protection design measures concept is applied, the explosion must also be isolated. If an isolation is omitted, the explosion can spread to other system parts via the connected pipes. A potential consequence would be a flame jet ignition in a neighbouring vessel owing to precompression effects and increased turbulences. But with an explosive pressure that can be many times higher than the value determined in the laboratory for the medium used.

The choice is yours, so make the most of our options. / 

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Find the right solution quickly. /
VENTEX® ESI-E/-D Type 6.
All-round protection.

Passive protection against explosions. In the versions ESI-E single acting and ESI-D double acting, VENTEX Type 6 is suitable for explosion protection in one or both directions of flow without external energy.

Functional diagram
VENTEX® ESI-E/-D

When idle or rather without air flow, the closing device is held in the middle position.
In normal operation, the medium flows around the closing device.
In case of an explosion, the pressure wave pushes the closing device against the closing device seal. The valve is locked in this closed state, preventing the spread of flames and pressure waves.

Versions
- Sizes DN100 to DN600
- E: single acting without external energy/active
- D: double acting without external energy/active

VENTEX® ESI-C Type 6.
Just open when the time is right.

The passive explosion isolation valve VENTEX ESI-C Type 6 is a check valve. Its special mode of operation makes it suitable for explosion protection against the flow direction.

Functional diagram
VENTEX® ESI-C

When idle or rather without air flow, the closing device is held back in the closed position. The valve is locked preserving the spread of flames and pressure waves.
In normal operation, the air flow keeps the valve open.
In case of an explosion, the pressure wave pushes the closing device back to the closed position. The valve is now locked, preventing the spread of flames and pressure waves. VENTEX ESI-C is thus suitable for explosion initiation against flow direction.

Versions
- Sizes DN100 to DN600
- C: check valve without external energy/passive
VENTEX® ESI-P.
Fast protection in limited space.

The active explosion protection valve VENTEX ESI-P operates with external energy and also enables effective protection against fires thanks to its special mode of operation.

Functional diagram VENTEX® ESI-P

The system to be protected is equipped with pressure and/or flame sensors. In normal operation, the medium flows around the closing device, the valve can easily be opened and closed pneumatically.

The control issues a signal that activates one or more gas generators. The pressure generated moves the closing device in only a few milliseconds for sealing and closes the valve.

RSV.
When speed really matters.

Do you require a free pipe without pressure drop and the shortest installation distances? The RSV enables safe explosion protection in the pipe system. Available in different versions, it is suitable both for use in pharmaceutical media as well as for systems processing dust and gas.

RSV-O
The RSV-O protects systems conveying dust against explosion propagation.

RSV-G
The RSV-G is designed and designated for protection of equipment where gases or hybrid mixtures can explode.

The protected system is filled with pressurized air or flame sensors. These detect an explosion and forward a signal. Depending on the size of the slide valve, the signal activates one or more gas generators, which close the slide valve through the generated pressure. The spread of flames and pressure waves is therefore effectively prevented. The extremely fast closing time also enables very short installation distances. In normal operation, the slide valve can be opened and closed pneumatically.

Functional diagram RSV

Versions
/ D: duct
/ G: gas
/ P: pharmaceuticals

RSV-P
The RSV-P is due to its design especially suitable for applications with high demands on hygiene. Its special pharmaceutical-grade execution allows for optimum cleaning at the point of contact with the product, both inside and outside.

RSV-D
The RSV-D protects systems conveying dust against explosion propagation.

RSV-G
The RSV-G is designed and designated for protection of equipment where gases or hybrid mixtures can explode.

The protected system is filled with pressurized air or flame sensors. These detect an explosion and forward a signal. Depending on the size of the slide valve, the signal activates one or more gas generators, which close the slide valve through the generated pressure. The spread of flames and pressure waves is therefore effectively prevented. The extremely fast closing time also enables very short installation distances. In normal operation, the slide valve can be opened and closed pneumatically.

Functional diagram RSV

Versions
/ D: duct
/ G: gas
/ P: pharmaceuticals
The passive explosion isolation flap valve enables optimal protection thanks to a mechanical locking device. The REDEX Flap complies with the standard EN 16447. The flap valve is single acting and prevents the propagation of explosions opposite the flow direction.

**REDEX® Flap.**

Safely locked.

The passive explosion isolation flap valve enables optimal protection thanks to a mechanical locking device. The REDEX Flap complies with the standard EN 16447. The flap valve is single acting and prevents the propagation of explosions opposite the flow direction.

**Versions**

- Single DN40 to DN450
- For organic dusts
- Single acting
- For pull applications
- Minimum pressure drop

**Functional diagram**

**REDEX® Flap**

Without air flow, the flap valve is closed, but not locked. In this position the functional safety is monitored via a switch.

In case of an explosion, the pressure wave pushes the flap valve into the closed and locked position. This prevents the spread of flames and pressure waves. A switch monitors the function.

**REDEX® Slide.**

Single pressure – double action.

Do you need to protect a process with a high dust load and low explosion pressure? The explosion isolation slide valve, REDEX Slide, is the perfect solution thanks to its simple technical structure accompanied by attractive prices and low maintenance costs.

**Versions**

- Single DN40 to DN450
- For organic dusts

**Functional diagram**

**REDEX® Slide**

The protected system is fitted with pressure and/or flame sensors. These detect an explosion and transmit a signal. The signal activates a gas generator, which closes the slide valve through the generated pressure. The spread of flames and pressure waves is therefore effectively prevented. The extremely fast closing time enables very short installation distances. To control operation, the slide valve can be opened and closed pneumatically.

**Versions**

- Single DN40 to DN450
- For organic dusts