

/ Explosion Isolation. No matter what happens - nothing happens. /

VENTEX® ESI-E/-D, ESI-C, ESI-P
RICO Slide Valve RSV-D, RSV-G, RSV-P
REDEX® Flap
REDEX® Slide



rico 
CERTIFIED SAFETY



/ Confidence through safety: RICO Sicherheitstechnik AG. /

Constantly enhancing your safety – this has been the objective of RICO Sicherheitstechnik AG since 1988. The components we have developed 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-known businesses in a variety of 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, specialised in optimum operational protection concepts. With support from agents and commercial partners we market our 100% gastight butterfly valves in various countries throughout the world.

Every employee is a specialist.

We meet ambitious targets with optimum performance: RICO employs an experienced and motivated team of engineers, administrators, CNC operators, fitters and certified welding experts. With this pooled 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-type examination is carried out for every single execution.

/ **The RICO quality promise.** Take our word for it. /

Quality cannot be taken for granted.

It is the result of focused work and careful control. At RICO, we are very conscientious about this. After all, our products are used where it really matters. And to make sure nothing happens when something happens, we are especially meticulous in our development, certification, production and testing. During development, we make sure our solutions are not 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 are held 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.





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

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 flames), 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 vessels 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.

/ Find the right solution quickly. /



VENTEX® ESI

REDEX® Flap

RICO Slide Valve RSV

VENTEX® ESI-P

REDEX® Slide

Value

passive component

active component, additional detection and control unit necessary

	VENTEX® ESI	REDEX® Flap	RICO Slide Valve RSV	VENTEX® ESI-P	REDEX® Slide
Pressure	passive component		active component, additional detection and control unit necessary		
> 10 bar					
< 10 bar					
~ 1 bar					
Dust load					
> 50 g/m ³					
< 50 g/m ³					
Medium					
metallic dusts					
hybrid mixtures					
gases					
organic dusts					
Pressure drop					
no					
Flow velocity					
> 35 m/s					
< 35 m/s					
Process temperature					
> 250 °C					
> 100 °C					
< 100 °C					
Mode of operation					
double acting					
single acting					
Installation position					
any					
vertical					
horizontal					

/ 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.



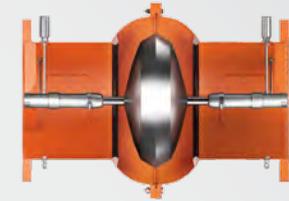
Versions

/ Sizes DN100 to DN600

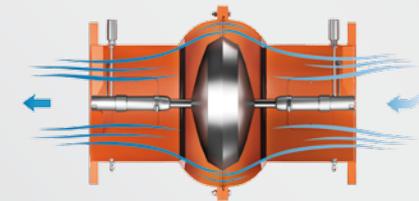
/ E: single acting without external energy/passive

/ D: double acting without external energy/passive

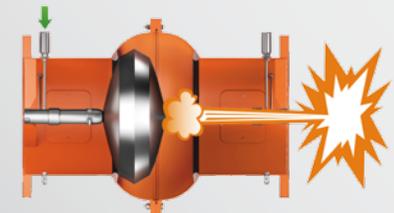
Functional diagram VENTEX® ESI-E/-D



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.

/ 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.

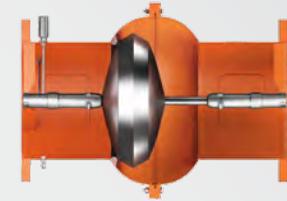


Versions

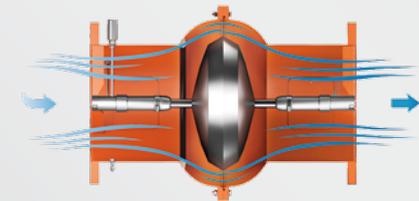
/ Sizes DN100 to DN600

/ C: check valve without external energy/passive

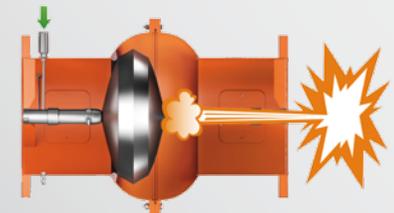
Functional diagram VENTEX® ESI-C



When idle or rather without air flow, the closing device is held in the closed, but not locked, position by a return spring.



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 isolation against flow direction.

/ VENTEX® ESI-P.

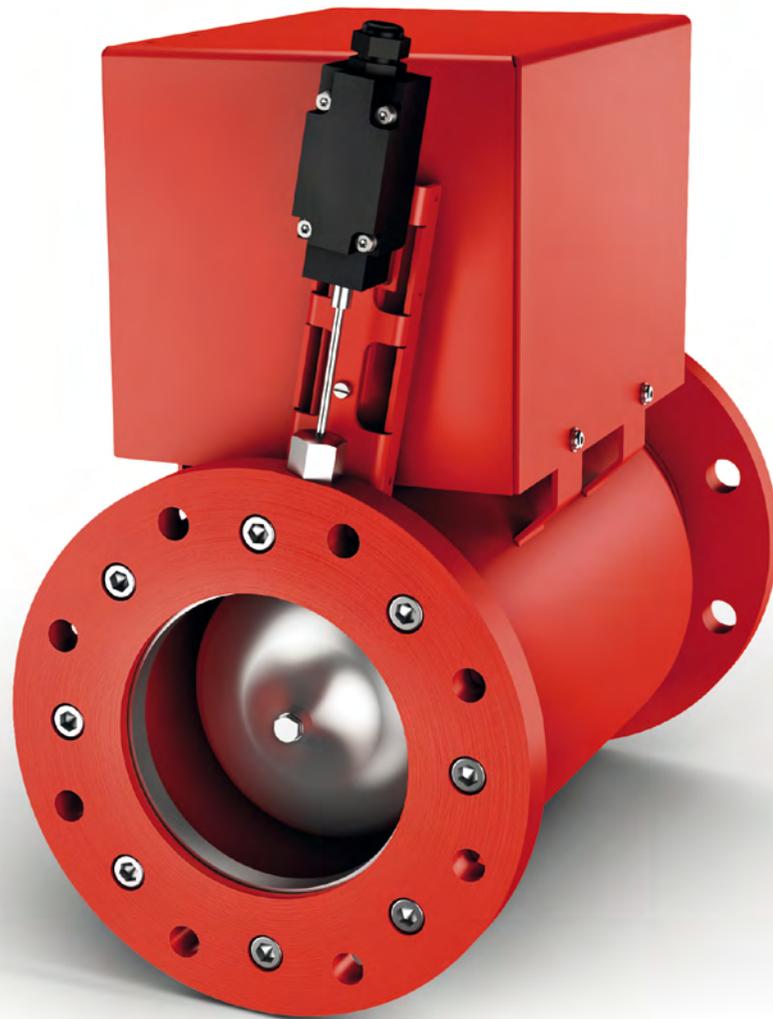
Fast protection in limited space. /

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

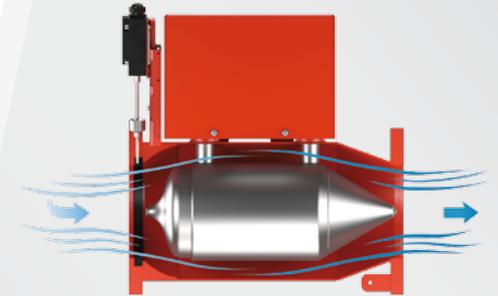
Versions

/ Sizes DN100 to DN500

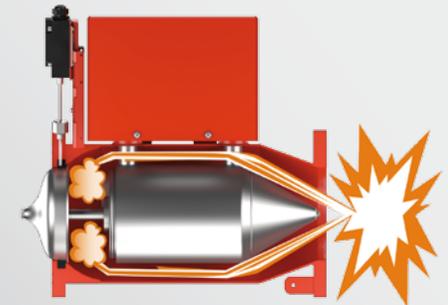
/ P: single acting with external energy/ active



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.

/ RICO Slide Valve RSV. Always the right match to close! /

Do you require a free pipe without pressure drop and the shortest installation distances? The RICO Slide Valve 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-D

The RICO Slide Valve RSV-D protects systems conveying dust against explosion propagation. RSV-D ensures protection on both sides.

RSV-G

The double acting RICO Slide Valve RSV-G is an explosion protection in gas version.

RSV-P

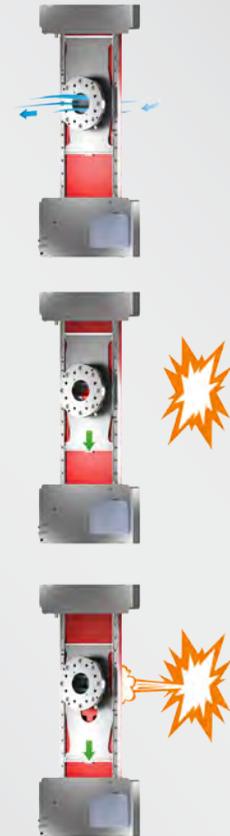
The double acting RICO Slide Valve RSV-P is especially suitable for pharmaceutical applications. Its special pharmaceutical-grade housing allows for optimum cleaning at the point of contact with the product, both inside and outside.



Versions

- / Sizes DN50 to DN400
- / Further sizes as special execution
- / D: dust, double acting
- / G: gas, double acting
- / P: pharmaceuticals, double acting

Functional diagram RICO Slide Valve RSV



The protected system is fitted with pressure and/or flame sensors. These detect an explosion and transmit 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.

/ 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

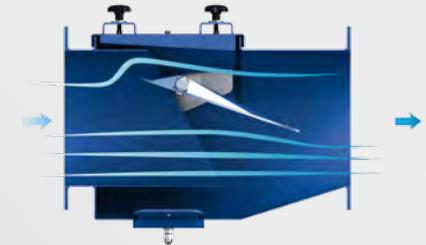
- / Sizes DN140 to DN400
- / for organic dusts
- / single acting
- / for pull applications
- / minimum pressure drop



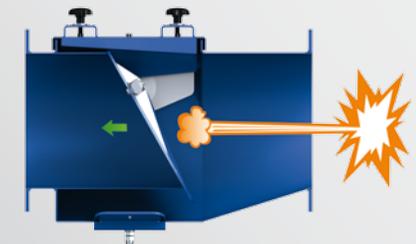
Functional diagram REDEX® Flap



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



In normal operation, the flap valve is in the open position, allowing the medium to flow around it.

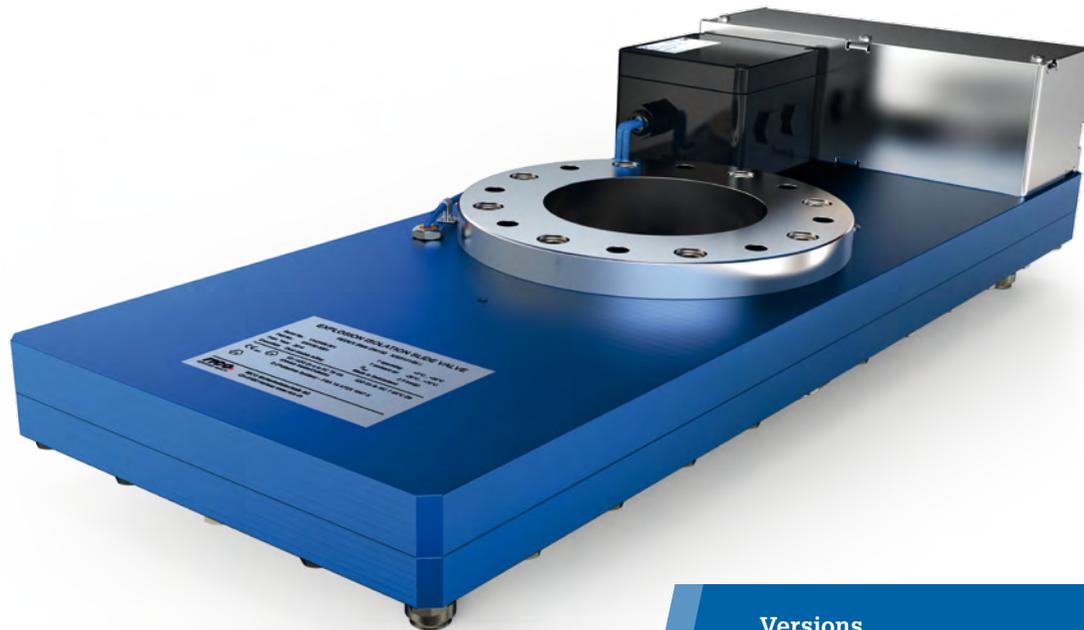


In case of an explosion, the pressure wave pushes the flap valve into the closed and locked position. This prevents the spread of flames and pressure waves. A switch monitors the function.

/ REDEX® Slide.

Single pressure – double action. /

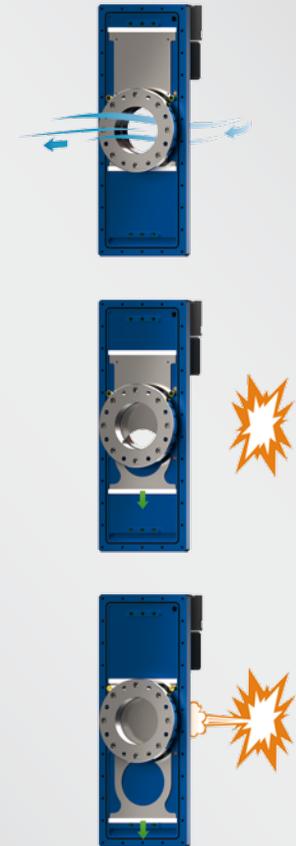
Do you need to protect a process with a high dust load and low explosion pressure? The explosion isolation slide valve, REDEX Slide, is the perfect solution thanks to its simple technical structure accompanied by attractive prices and low maintenance costs.



Versions

- / Sizes DN80 to DN150
- / for organic dusts
- / double acting

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. In normal operation, the slide valve can be opened and closed pneumatically.

You can find our sales partners at
/ www.rico.ch/en/partner-representatives

rico⁺
CERTIFIED SAFETY

RICO Sicherheitstechnik AG
St. Gallerstrasse 26
CH-9100 Herisau / Switzerland
T +41 (0)71 351 10 51
F +41 (0)71 351 10 52
info@rico.ch / www.rico.ch