



Company introduction

VST ENGINEERING
EXPLOSION SHIELD

About the company

The VST Engineering company has been providing complete services in the field of prevention and protection of industrial equipment against dust explosion for over 20 years – starting with risk assessments, through safety design and implementation, to regular maintenance of protective systems.

The success of VST Engineering rests upon two main pillars. One is the people, who form the company and who keep growing both humanly and professionally, keep educating themselves, collect experience and search for new ways to improve the services.

The second pillar is our technical equipment, research and development of our own technologically advanced protection systems in accordance with present legal requirements.

Our activities aim for safe operation of industrial equipment without the risk of long term downtimes and economical losses during extraordinary events (which an explosion certainly is). This also secures the primary goal, which is safety of workers.

Everyone in the company constantly strives to keep our technology and services consistently meet all the needs for safety of industrial operations and active business development both within and outside of the EU.

Team VST ENGINEERING



VST ENGINEERING
EXPLOSION SHIELD

- **Ensure maximum safety of operations, health and human life**
- **Development and production of own protection systems**
- **Secure all types of plants and equipment at risk of dust explosion**
- **Long-term experience with applications of protective systems**
- **Complex solution of dust explosion**

WE RESPECT YOU

*We appreciate any cooperation and thank to all of our customers for their trust.
We always make maximal effort to create and maintain a long-term partnership.*



Selected references by field of work

Energetics

Veolia
ČEZ
Plzeňská teplárenská
Žilinská teplárenská

Breweries

Plzeňský Prazdroj
Budějovický Budvar
Heineken
Staropramen

Other

CIUR
AERO
...

Sugar factories

Krajowa spolka cukrowa
Südzucker
TTD Tereos

Chemistry and pharmaceuticals

Synthos
Synthesia
Lovochemie

Food industry

Mondelez
Ferrero
Nestlé
Karlovarská Becherovka

Automotive

VW
ŠKODA
BMW
Bridgestone





Risk assessment

- **Assessment** of ignition sources
- Determination of requirements for machinery and electrical equipment



Security designing

- **Application** of protective systems
- **Determining the amount and location** for machinery and electrical equipment



Calculations of pressure resistance

- Finite Element Method (FEM) **simulation**
- **Assessment** of current pressure resistance of the device

i

Do you act responsibly?

Do not expose your employees to the risk of explosion and do not risk losing your good name. Explosion is not only a theoretical risk and protection against it is a sign of a high level of responsibility and an appropriate approach to ensuring safe operation.



COMPLEX SOLUTION

LET US TAKE CARE
ABOUT YOUR SAFETY!



Installation

- **Own security** protection systems
 - **Project documentation**
- Accompanying documentation and **handover**



Revision and service

- **Warranty and post-warranty** services
- For all protective systems
 - **Periodic** revisions



Technical support

- Training
- Consultation
- Seminars

VST SECURES

ALL OPERATIONS

WITH THE RISK OF DUST EXPLOSION



For more information, please
visit www.vst.cz/en



Energetics

- Power plants
- Heating plants
- Waste incinerators
- Biofuel plants
- Fuel plants
- Biomass processing
- Cement works



Food industry

- Breweries and malt-houses
- Sugar factories
- Candy and cookie factories
- Instant product factories
- Bakeries
- Distilleries, Liqueur distilleries
- Milk dryers



Chemistry and pharmaceuticals

- Polystyrene units
- Plastics factories
- Fertilizer units
- Powder dye and pigment factories
- Sludge processing
- Drug production



Agriculture

- Mills
- Grain cleaners
- Post harvest grain lines
- Fodder mixers
- Tobacco industry
- Rendering plants



Automotive and aviation

- Production of car parts
- Production of plastic moldings
- Casting treatment
- Tire production
- Powder paint shops



Woodworking industry

- Paper mills
- Pellet factories
- Chipboard factories
- Furniture factories

Is there dust present in your technology?

Dust explosion risk should not be underestimated even though you hadn't have such incident yet. The consequences of explosion usually goes to long term production stop, don't even mentioning injuries or fatalities.





VST SECURES

ALL DEVICES

WITH THE RISK OF DUST EXPLOSION



Grinding, mixing and crushing

- Mills
- Crushers
- Grinders
- Pressers
- Mixers



Separation and sorting

- Screeners
- Separators
- Sieves
- Cyclones



Filtration

- Filters
- Cyclofilters
- Electrofilters
- Industrial vacuums
- Aspiration



Storage and drying

- Silos
- Tanks
- Scales dryers
- Milk dryers



Transport

- Screw conveyors
- Redlers elevators
- Schaftless conveyors
- Powder ducts



Other

- Mixers
- Malaxers
- Rotopulsers
- Reactors
- ...



VST MANUFACTURES

ALL PROTECTIVE SYSTEMS

TO SECURE AGAINST DUST EXPLOSION



ANTIDET Dumper

**Protective system
for one-way separation
of the explosion**

ANTIDET Dumper is a passive backdraft valve, which is closed by pressure of explosion itself and thus prevents the transmission of the explosion by inlet pipes



**ATEX, TP TC
ST1, ST2**

2014/34/EU EN16447



ANTIDET Barrier

**Protective system
for separation of the
explosion**

ANTIDET Barrier is an active system, which adds the extinguishing agent from active elements into the protected pipes upon detection of accompanying phenomenon of explosion (flame, pressure), thereby stopping the spreading of the flame into connected equipment



**ATEX, TP TC
ST1, ST2, Metal**

2014/34/EU, EN 15089





ANTIDET Suppressor

Protective system for suppression of the explosion

ANTIDET Suppressor is an active system which adds the extinguishing agent from active elements into the protected pipes upon detection of accompanying phenomenon of explosion (flame, pressure), thereby suppressing the explosion.



**ATEX, TP TC
ST1, ST2, Metal**
2014/34/EU EN14373

ANTIDET Relief

Protective system for the explosion venting

ANTIDET Relief is a passive anti-explosion membrane, which upon opening reliefs the explosion from the protected equipment.



**ATEX, TP TC
ST1, ST2, ST3, Metal**
2014/34/EU, EN 14797



ANTIDET FQ Relief

Protective system for flameless venting of the explosion

ANTIDET FQ Relief is a passive anti-explosion membrane fitted with a bin, which extinguishes the flame of a relieved explosion.



**ATEX, TP TC
ST1, ST2**
2014/34/EU, EN 16009

ANTIDET Flap

Protective system for separation of explosion in both directions

ANTIDET Flap is an active system, which closes the protected pipes upon detection of accompanying phenomenon of explosion (flame, pressure), thereby stops the transmission of explosion into other equipment.



**ATEX, TP TC
ST1, ST2, Metal**
2014/34/EU, EN 15089





www.vst.cz/en