

AUTOMATIC FIRE EXTINGUISHING SYSTEMS

fire and explosion protection



Efficient automatic fire systems are intended for fire protection of industrial equipment like paint booths, machine tools, communication and information centers, filtration units, and many others.

Fire protection of paint booths

Risks: We very often encounter painting systems for product finishing in all sorts of industries, where a very high probability for fire exists.

Reasons for fires in painting shops and paint booths most often are: flammable painting materials, electrical voltage on electrostatic paint guns in connection with flammable materials, occurrence of explosive atmospheres due to the presence of flammable vapors or solvents, insufficient grounding, and deposition of paint on booths, filters or cyclones.

Solution: Paint booths for painting with powder and liquid painting materials require specific approaches to their fire and explosive protection design.

The RSBP Company has developed its own paint booth protection systems and provides a full range of services and products related to paint booth protection. From manufacture, to delivery, to final assembly, and service, all aspects of the process are protected to minimize the risk of fire occurrence with its related potential for very costly damage to high technology systems and buildings.

Highly sensitive optical detectors constantly monitor all critical spots in a paint booth. In case there is an ignition source, the detector senses its radiation and after evaluation by a control unit extinguishing is activated. The control unit is interconnected with the paint line control system as well, and shuts down spraying equipment in real time, in order to prevent additional delivery of flammable materials into protected areas. Thus the incipient fire is very quickly and efficiently extinguished by the RSBP protection system, and line production can be renewed in a very short time. Only such protection can minimize the costs and stoppages caused by fire.

ADVANTAGES

- » very fast reaction of optical detectors
- » effective extinguishing directly onto paint equipment
- » single or multiple level extinguishing
- » custom made solutions for optimal effect
- » wide range of system components
- » modular systems to meet every requirement



Fire protection of machine tools

Risks: During machining, current cutting machines are often cooled by flammable oils that create oil fog in the working area. Ignition of flammable vapors can result from the heat of friction, or electric spark cutting machines. The resulting fire can spread from the cutting machine to the exhaust system and consequently to other areas of the plant.

Risk machine parts: machining area, areas at input and output of machined products, area leading to an exhaust system, area above an electric spark cutting machine vessel.

Solution: RSBP offers high quality and efficient fire protection for machining technologies in relation to the prevention of specific problems caused by cooling oil fog, flammable liquid vapors, and flammable waste created by the machining process.

The RSBP fire systems can protect electric spark cutting machines, coordinate grinding machines and cutters, and other similar electric devices.

Work areas of cutting machines are constantly monitored by a system of optical and temperature detectors. In case of fire, a control unit: Starts an acoustic alarm, automatically switches the appropriate equipment off, and opens the valve of the extinguishing agent bottle. Within seconds the extinguishing agent is introduced into working space of a cutting machine and extinguishes the fire.

ADVANTAGES

- » custom made solutions for optimal effect
- » wide range of system components
- » modular systems to meet every requirement
- » interconnection with technology control system
- » automatic connection with alarm siren and alarm receiving center



Spark extinguishing system

Risks: Sparks and glowing particles occur during some technological processes due to friction, static charges, or the introduction of foreign particles. These sparks are further carried by air through pipes and stop in a filtration unit, a tank or a silo, where carried material can start smoldering and can lead to fire or destructive explosion.

Solution: To minimize the risk of fire and associated explosions and to protect equipment and personnel, RSBP offers a tested spark extinguishing system.

The spark extinguishing system is initiated by highly sensitive optical detectors that react within milliseconds to the presence of glowing sparks in transport systems. When these sparks or hot spots are present, a control unit immediately receives a detector impulse, and based on electronic evaluation within thousandths of a second activates a quick acting valve to extinguishing nozzles in a transport system. The extinguishing nozzles create a conical fog of extinguishing medium, and thus extinguish undesirable sparks and hot particles. After extinguishing the sparks the system automatically reverts to a stand-by regime.

ADVANTAGES

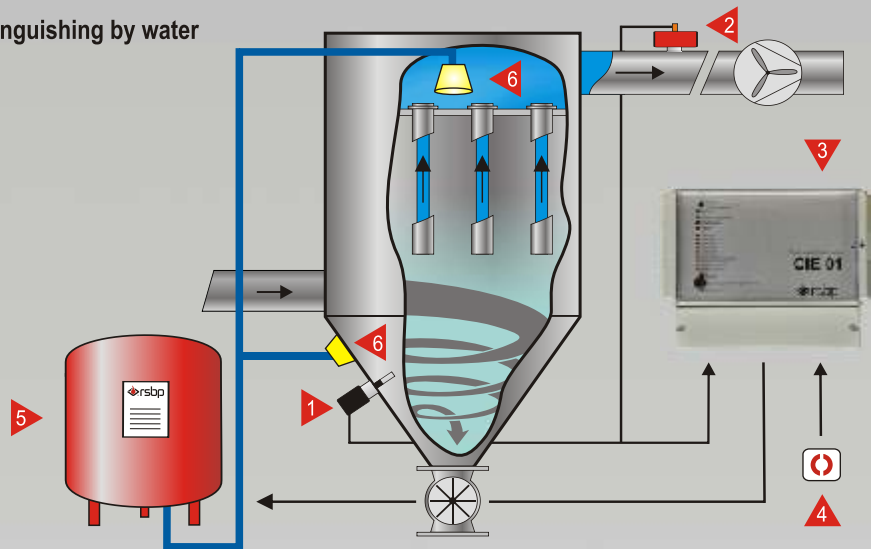
- » high efficiency and short reaction time of the system
- » capability to be installed on short pipes
- » variable and modular building system
- » simple installation
- » nozzle design prevents any clogging
- » automatic monitoring of detectors against clogging



Fire extinguishing using water is also effective and suitable for fire protection of exhausting and filtration equipment. Other extinguishing agents than water can be used for special applications and protected equipment requirements.

Schematic of filter extinguishing by water

1. Temperature detector
2. Optical detector
3. Control unit
4. Manual pushbutton
5. Water tank
6. Fire nozzle



Fire protection of information and communication centers

Risks: Currently almost all activities of companies are controlled automatically by computers. Fire protection of data and the associated information and communication system is, therefore, one of most important areas for a business to protect from catastrophic fire. Even one small fire in an information center can have disastrous consequences for a company often the largest damage does not lie in destruction of equipment, but in the loss of the stored data. Such a loss of data can lead to extreme business disruption and delay in the resumption of normal business operations.

Solution: The RSBP spol. s r. o. company offers efficient fire protection solutions for information and communication centers, electric distribution centers, transformer stations and the like.. In case smoke or fire is detected in a room where information equipment is placed, an automatic extinguishing system is activated. The space is filled by a special extinguishing agent that very quickly puts out the fire, but does not damage protected equipment. RSBP extinguishing systems offer a wide range of fire protection levels from protection of single distribution boxes and servers to protection systems for whole rooms.



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