

extinguish it with a water spray.

Water spray systems

Safe for certain.



## EXTINGUISHING WITH WATER SPRAY.

Every year, fires cause huge damage and cost the economy billions of Euro.

A special fire hazard is caused by substances that are highly flammable which are likely to cause a very quick fire spreading. In such cases, conventional sprinkler systems may not be activated quickly enough to provide adequate protection.

Minimax has therefore developed water spray systems where all nozzles in the affected area are opened simultaneously covering the area with a water spray. A large volume of water is thus released and sprayed evenly over an extended area within a very short period of time. This approach ensures that fires in rooms with flammable goods can be extinguished quickly and with minimum damage. Minimax water spray systems are designed according to the individual needs of our customers and the fire protection requirements at the site, taking into account the actual fire load, structure of the building or the protected object.

Generally, the costs of a water spray system amount only to a fraction of the overall construction costs of the building especially, if the extinguishing system is incorporated into the building project during the planning phase. Thanks to its many years of experience Minimax can further offer water spray systems for retrofit installation at a very competitive price. Minimax water spray systems protect your company against the devastating effects of a fire, as such events generally lead to a long standstill. By installing a well-designed and effective fire protection system, you let your customers know that reliability and safety are among your top priorities.

Minimax has over 100 years of experience in the development, production, installation and maintenance of fire protection solutions. Its high-quality products are being continuously developed and im proved to suit customers needs.



Minimax water spray systems have a number of distinct advantages:

- Extinguishes fires quickly and prevents fires from spreading over a large area.
- Minimises the damage caused by fire and reduces downtimes, protects the future of your business.
- Reduces fumes and binds contaminants in the water spray.
- Allows large open areas and thus a more flexible use of the premises.
- Uses water, a natural fireextinguishing agent that is available in unlimited quantities at a very low price.
- After a fire, the Minimax water spray system is quickly restored to ready mode.

# FAST RESPONSE EFFECTIVE FIRE FIGHTING.

Minimax water spray systems are used to protect rooms and objects and are suitable for indoor and outdoor installation. Water spray systems are the preferred solution for the protection of objects requiring preventive cooling or quick fire suppression, such as:

- Oil refineries
- Fuel tanks
- Transformers
- Facades

- Cable channels
- Recycling plants
- Waste incinerators
- Paint shops
  Theatres

The profound knowledge and correct application of relevant guidelines, the use of the approved products as well as qualified personell for design and installation guarantee your safety.









# WATER SPRAY EXTINGUISHING SYSTEMS



All sections of the building that are to be protected are equipped with a pipe system with open extinguishing nozzles. In ready mode, all piping up to the deluge valve is filled with water. The system includes fire detectors elements which, depending on the site conditions and the risk, are operated electrically, pneumatically, hydraulically or manually. As soon as a fire is detected, the deluge valves are opened. The water is sprayed onto the area from all nozzles, extinguishing flames and absorbing heat and cooling the material on fire. Minimax water spray systems with electronic control can be stopped manually by means of remote control (optional) so that the water flow can be stopped as soon a the fire is extinguished, preventing unnecessary damage.

Minimax GmbH & Co. KG Industriestrasse 10/12 D-23840 Bad Oldesloe Phone: +49 (0) 45 31 8 03-0 Fax: +49 (0) 45 31 8 03-2 48 E-mail: info@minimax.de www.minimax.de



For detailed information, please refer to the Minimax product sheets.



## Deluge valve set Type FSX

## Product Use + Advantages

Deluge valve sets are used in extinguishing systems where pipeworks with open nozzles are a must. Their use is always advisable where water needs to be discharged in larger areas via an appropriate number of nozzles.

Simultaneously for activation, an acoustic alarm is set off by a hydraulically operated alarm gong, and an electric alarm is transmitted to a permanently manned location (e.g. fire brigade). The deluge valve set can be activated either electrically, pneumatically or hydraulically. An additional manual release is also provided.

- Typical fields of application for water spray and fine water spray extinguishing systems are:
  - Protection of machinery
  - Industrial presses
  - Transformer stations
  - Tank system cooling
  - Cable ducts
  - Recycling systems
  - Painting systems
  - Theatre stages

### WATER SPRAY EXTINGUISHING SYSTEMS



Cool down. Fire Protection by

# MINIMAX

- Pre-assembled trimming guarantees fast installation
- Low weight
- Compact design reduces the space required
- Corrosion-resistant internal parts
- High permissible operating pressure: 16 bar
- Reduced pressure loss
- No water hammer due to a cushioned closing action
- Suitable for high flow rates
- Functional and pressure tests of the valve set conducted by the manufacturer
- Remote panel for the manual control of the deluge valve set with electric release available
- Optionally available external operating unit for manual remotecontrolled re-setting of the deluge valve set with electric activation.
- VdS-Approval
- FM-Approval





### Deluge valve set with electric activation Dimensions

|  | DN 50      | DN 80      | DN 100     | DN 150     | DN 200     |
|--|------------|------------|------------|------------|------------|
| А  | 310        | 315        | 335        | 355        | 385        |
| В  | 230        | 295        | 310        | 390        | 420        |
| с  | 305        | 375        | 425        | 540        | 688        |
| H1   | 430        | 460        | 500        | 580        | 670        |
| H2   | 280        | 310        | 350        | 480        | 600        |
| L  | 150        | 180        | 190        | 210        | 230        |
| Distance to the<br>front of valve*<br>back of valve* | 220<br>185 | 260<br>220 | 280<br>220 | 360<br>276 | 460<br>276 |

\* from pipe center

The gate valve can either be pulled from the side or towards the front.

#### - Hydraulic activation

As far as the hydraulic activation is concerned, the pilot line is directly connected to the control chamber of the deluge valve. The system pressure of the water supply is permanently applied to the pilot line. Should a pilot sprinkler release, the pressure in the control chamber drops and the deluge valve opens.

#### Pneumatic activation

The pneumatic activation of the deluge valve set is accomplished via a pilot line filled with compressed air and equipped with sprinklers or special heat sensors. In order to avoid a nuisance activation, the pilot line operating pressure is maintained by means of an automatic compressed air replenishment system. A diaphragm valve is positioned between the pneumatic pilot line and the control chamber of the deluge valve. If one of the sprinklers or heat sensors release, the pressure in the pilot line drops and opens the diaphragm valve. This causes a pressure release in the deluge valve control chamber, the valve opens and water flows into the nozzle pipe work.

The deluge valve set with pneumatic activation is particularly suitable for areas exposed to frost.



### Electric activation with impulse valve

The electric activation of the deluge valve set is accomplished by means of a detection system, which triggers the solenoid valve in the event of fire. The solenoid valve opens, the pressure in the deluge valve control chamber drops and the nozzle pipe work will be flooded.

- In the event of fire, an electric alarm is released and transmitted to a permanently manned location. In addition an acoustic alarm is released by means of an alarm gong. This applies to all activation modes.
- In addition, Minimax offers an external panel that enables the manual activation of the Minimax deluge valve set from a remote location.
  - It can be used for the following tasks:
  - · Activation of the extinguishing process
  - Minimisation of water damage through interruption of the water supply
  - Easy and repeated reactivation if required
  - Recommissioning of the deluge valve set which guarantees continuous protection

| Nominal diameter                             | Maximum permissible pressure | Connection                     | Medium | Ambient temperature | Alarm   | Activation                                      |
|--|------------------------------|--------------------------------|--------|---------------------|---|---|
| DN 50<br>DN 80<br>DN 100<br>DN 150<br>DN 200 | PS 16                        | Flange/Flange<br>Groove/Groove | Water  | Max. 60 °C          | Pressure switch with<br>potential-free contacts<br>1 NO contact<br>1 NC contact | hydraulic,<br>pneumatic,<br>electric,<br>manual |

Subject to technical alterations.

Minimax GmbH & Co. KG Industriestrasse 10/12 23840 Bad Oldesloe Germany Phone: +49 4531 803-0 Fax: +49 4531 803-248 E-mail: info@minimax.de

