



Sprinklers – small precision components  
with outstanding performance

*Cool down.  
Fire Protection by*

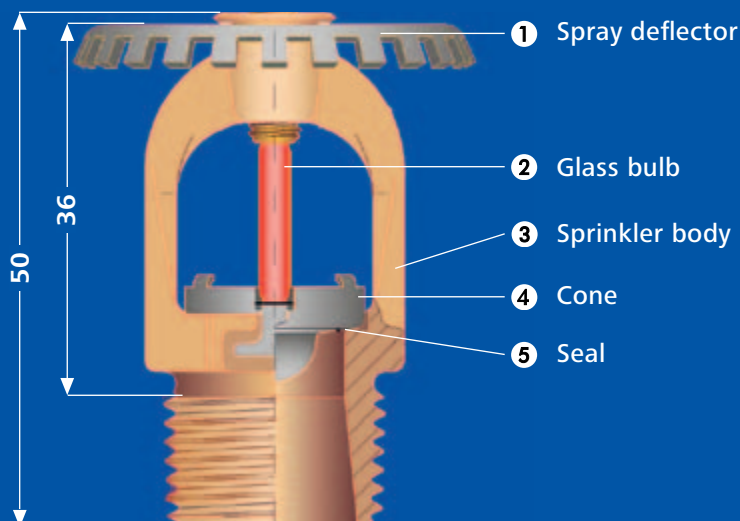
**MINIMAX**

# SMALL and precise

Over 75 years of experience, numerous patents and a wealth of certifications all pay testament to Minimax's leading role in the field of sprinklers. Latest-generation sprinklers have a particularly small component height and are quick and easy to mount. The functionality and effectiveness of the sprinklers are tested using life-size models in our Fire Research Centre.

## Functionality

Minimax sprinklers are very easy to use, but are nonetheless extremely safe. They are installed in a network of piping in a specifically designed grid formation to cover the area in need of protection from ceiling height. The opening from which the extinguishing water is released is sealed with a cone, which is in turn held in place by a glass bulb.



A key component of the sealing mechanism is the glass bulb – in which the liquid expands from the increased temperature generated by the fire. Should fire cause the ambient temperature in the immediate vicinity of a sprinkler to rise to about 30 °C above the anticipated maximum, the otherwise robust glass bulb shatters to release the extinguishing water, which is held at high pressure. The water, which exits the opening under pressure, then impacts the deflector, which is then dispersed in an even spray over the fire. The only sprinklers that open are those whose bulbs have burst due to the temperature increase, i.e. those above the fire.

With a total height of 50 mm and a wide range of finishes and rosettes, Minimax sprinklers blend harmoniously into any ceiling.

As standard, sprinklers are made from brass with stainless steel deflectors, but there are also models available made from stainless steel to resist highly demanding environments.



### **DP dry sprinkler, pendent**

For areas at risk of frost, where standing sprinklers cannot be mounted onto the sprinkler pipes.



### **DS-1 preaction sprinkler, pendent**

For areas with heightened safety requirements to prevent false alarms, such as computer rooms.

# SPRINKLER

types

SPRINKLER SYSTEMS

SPRINKLERS

In order to combat the various fire risks effectively, taking into account the specific architecture of a given building, Minimax sprinklers are available in a variety of models, each having particular spray characteristics. The letters describing each model indicate the sprinkler type and mounting position:

S is a spray-type sprinkler and F is a flat-type, U is for upright and P is for pendent. As well as the standard sprinklers with K-factors of 57, 80 and 150 there are also special models with reduced flow rates (K 20, K 28 or K 40) for areas with low fire risk.



**SU spray-type sprinkler, upright**

For areas with visible sprinkler pipes, such as factory floors and warehouses.



**SP spray-type sprinkler, pendent**

For areas in which the sprinkler pipes are laid in the hollow space above suspended ceilings, e.g. department stores and office suites.



**FU flat-spray sprinkler, upright**

For areas with visible sprinkler pipes and architectural features that block the spray, along with low suspended ceilings/false floors.



**FP flat-spray sprinklers, pendent**

Specially designed for in-rack sprinklers and areas with ceiling grids to ensure sufficient coverage in the event of a fire.



**WWH horizontal sidewall sprinkler**

For areas in which sprinkler pipes cannot be mounted onto the ceiling for architectural reasons, such as in hotel rooms.



**MX5-FW-CUP water and low-expansion foam sprinkler**

Sprinkler that generates low-expansion foam for use in areas with particularly high fire loads, such as storerooms for flammable liquids.

# ADDITIONAL EQUIPMENT

## ROSETTES

Rosettes in a variety of designs and colours can be used to decoratively cover the openings made in suspended ceilings when sprinklers are installed.



**Rosette A**  
Plastic, white  
**Rosette G**  
Elastomer, white



**Rosette D**  
Aluminium, anodised matt silver

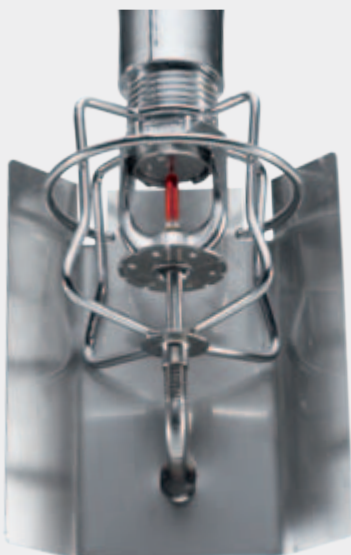
## ACCESSORIES



**Sprinkler guard**  
To protect against mechanical damage.



**Water shield with guard**  
To protect against mechanical damage and prevent cooling caused by water discharge from sprinklers above.



**Guard with deflector plate**  
To limit water distribution when certain objects (such as deep fryers) must not get wet.



**Water shield, two-part**  
To protect against cooling and the sprinkler getting wet; can be retrofitted.

# EQUIPMENT

for special applications

SPRINKLER SYSTEMS

SPRINKLERS



**Rosette E**  
Sheet steel,  
chrome-plated



**Rosette F**  
Sheet steel,  
chrome-plated



**Omega water shield**  
To prevent against cooling  
caused by water discharge  
from other sprinklers.



**Water shield**  
To protect against cooling and  
the sprinkler getting wet when  
sprinklers are mounted one  
above the other, for example.



**Sprinkler cage**  
To catch the sprinkler  
cone and large shards of  
the glass bulb when  
the sprinkler is released  
over devices such  
as paper machines.

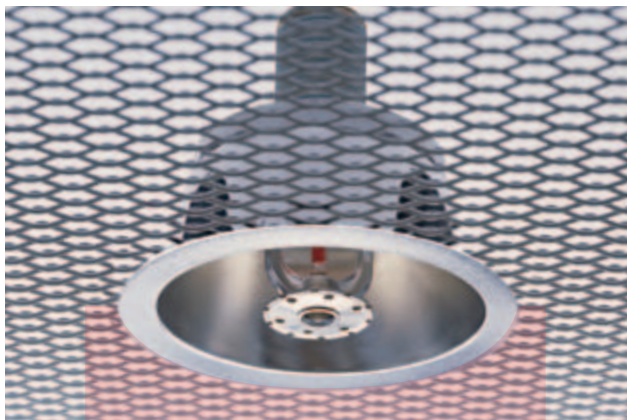


**Special rosette**  
To cover the openings  
made in sheet metal and  
cleanroom ceilings in a  
decorative and pressure-  
tight manner.

# UNDERCOVER

## sprinklers – recessed and concealed

Undercover sprinklers correspond to the aesthetic and material requirements of prestigious projects such as hotels, museums and shopping arcades, department stores and even offices. The recessed



The recessed position of our Undercover sprinklers means that the spray deflector is virtually level with the ceiling.



### **Protective grid**

One of the accessories for Undercover sprinklers.

position of these sprinklers further protects against external damage. The protective grid provides extra protection against material damage and can be conveniently retrofitted.



Concealed Undercover sprinklers each come with a fine-mesh cover and the accompanying CoverDrop™ release system.

# TOOLS

### **Sprinkler wrench and socket head**

Tools to install and remove sprinklers without damaging them.



### **Sprinkler box**

To safely store the required reserve sprinklers, the sprinkler tools and the report book for sprinkler systems.



# BULBS

for sprinklers

## Release temperatures

Minimax offers sprinklers in five different release temperatures as standard. The release temperature of each sprinkler is determined by the ratio of air to liquid inside the bulb and can be recognised immediately by the colour of the liquid inside the bulb.

### Bulbs

3 mm



Orange: 57 °C (135 °F)



Red: 68 °C (155 °F)



Yellow: 79 °C (175 °F)



Green: 93 °C (200 °F)



Blue: 141 °C (286 °F)

5 mm



## Responsiveness

Sprinkler responsiveness is measured using the RTI (response time index) scale.

The lower the RTI value, the quicker a sprinkler is activated in the event of a fire.

### International ratings

Fast response	RTI valve < 50
Special response	RTI valve 50–80
Standard response	RTI valve > 80–200

The Minimax range includes sprinklers with 3 mm bulbs (RTI < 50) and 5 mm bulbs (RTI of 80–200).

Sprinklers with fast response characteristic are recommended for areas where a fire could spread quickly or where there is a high risk to people.



# BENEFITS

for you

## Standardised threaded connections for Minimax sprinklers

The Minimax spray-type, flat-spray and horizontal sidewall sprinklers come with threaded connections that can enable lower installation costs for sprinkler piping and allow the sprinkler to be easily replaced, in the event that the hazard is changed or other modifications to the piping are required.

Connection	K-factor		
	57	80	115
3/8"	•	•	
1/2"	•	•	•

## CE mark

Minimax standard sprinklers underwent a successful conformity assessment in accordance with the Construction Products Directive. They meet the requirements of EN 12259-1 and therefore carry the CE mark.

## 100% quality

- ▶ 100% test of the bulb's functionality
- ▶ 100% hydrostatic test
- ▶ 100% visual test

## Sprinklers for special applications

Minimax also develops and manufactures sprinklers with special spray characteristics for specific applications, for example:

- ▶ Preaction sprinklers for wet systems
- ▶ Preaction sprinklers for dry systems
- ▶ Sauna sprinklers
- ▶ K 20, K 28 and K 40 sprinklers

Minimax manufactures stainless steel versions of its sprinklers for temperatures up to 1,100 °C and for the protection of areas that have a highly abrasive and corrosive atmosphere, e.g. food processing industry.

## Certification

- ▶ Minimax sprinklers boast VdS (German Association of Property Insurers) component certification and a host of other international certifications.

## Further information

A complete overview along with technical documentation for all sprinklers, accessories and related products can be found in the Water Products catalogue on our website at

[www.minimax.de](http://www.minimax.de)



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You can find more detail information in the relevant technical specifications sheet.

Subject to technical changes.