



BRANCH SOLUTION

SPARK EXTINGUISHING SYSTEMS



Valve unit G1 with flat spray nozzle F180

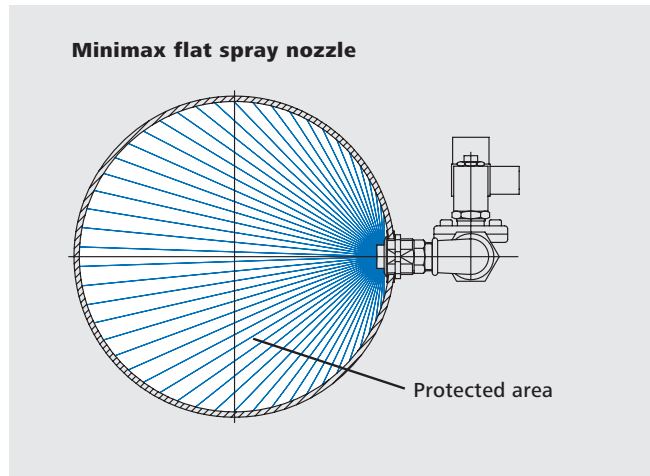
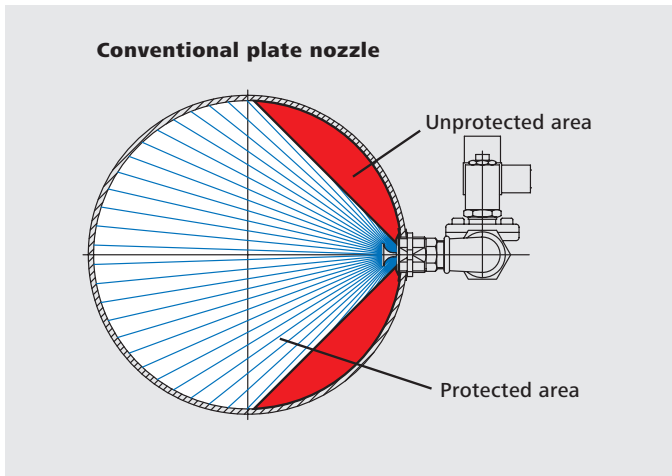
*Cool down.
Fire Protection by*

MINIMAX

► Product ► Application + Advantages

- ▶ The valve unit G1 generally consists of a ball valve, a fine filter, a flow control device and a 'high-speed' solenoid valve. The valve unit will be completed by a patented F180 flat spray nozzle available with various k-values and a stainless steel mounting attachment for the nozzle.
- ▶ A quick assembly connection hose enables a simplified connection of the valve unit G1 to the extinguishing pipe network.
- ▶ As an option the ball valve of the valve unit can be equipped with an electrical monitoring.
- ▶ To distribute the water, a specially designed, self-closing F180 nozzle with an even, compact flat spray with high and homogenous water drop density is used.
- ▶ The jet has a spraying angle of 180° and covers the whole interior geometry of round and rectangular cross sections.
- ▶ The G1 valve unit with F180 flat spray nozzle is generally used in spark extinguishing systems to protect conveyor systems, filters, dryers and other enclosed system areas, and enables the immediate release of water and even extinguishing over the whole tunnel's cross section. It is activated via upstream spark detectors.
- ▶ Typical applications include in the wood processing industry, the furniture sector, cereals, coffee and cocoa production plants, the sugar and textile industries and rubber and plastic processing.
- ▶ Even at high conveying speeds of up to 60 m/s and in extremely large ducts with diameters of up to 3.4 m, the flat spray nozzle offers optimal fire protection.
- + The combination between the patented F180 flat spray nozzle and the 'high speed' solenoid valve of the valve unit G1 ensures the rapid and even build up of a water curtain over the entire cross section, both in transport lines and in drop chutes.
- + Highest levels of operational safety through the complete monitoring of the valve unit for wire breaks, short circuits, undesired water flow and ball valve position.
- + Highest levels of functional safety through the use of high-quality components and a special coating layer on the flat spray nozzle.
- + The self-closing F180 flat spray nozzle creates a fan-like mist with an angle of 180°, thus covering the tunnel's whole cross section, ensuring that no area is left unprotected.
- + A range of different k-values for the nozzle ensures optimised water injection in the conveyor systems.
- + Maintenance-friendly through simply mounting and demounting of the components.
- + Optional: Also available for use in dust Ex zones.

Section view of the duct at nozzle position:



The water supply to the valve unit must come from a permanent accumulator, preferably a pressur booster unit DEA.

The solenoid valve opens after being activated via the corresponding fire detection control panel. As a result of increasing water pressure, the extinguishing water pushes a sealing element off the nozzle. Thanks to the special construction of the nozzle orifice and sealing element, the characteristic flat spray jet is created with a diffusion angle of 180°. After the extinguishing process, the nozzle closes automatically and is thus protected against dirt and residues.

The spray jet has a fan-shaped pattern and is therefore suitable for the rapid filling of conveyor tube sections with spark extinguishing systems. The flat spray nozzle can be used with an operating pressure of 3 up to 16 bar.

Should the solenoid valve be damaged or defect, an unintended flow of water may occur. The flow control device integrated into the G1 valve unit recognises the undesired water flow and sends a fault message to the fire detection control panel.

The flat spray nozzle is screwed into the stainless steel mounting attachment or welding socket, both available as an accessory, and is sealed with an O-ring, thus ensuring that it is almost flush with the inner wall; there is practically no resistance to the passing particles in the conveyor system. Abrasions and dirt are reduced to a minimum.

For use in areas subject to frost, a special, made-to-measure and easily assembled insulation jacket is available as an accessory, which is used together with a self-regulating trace heating device.

Technical data

Type	Spraying characteristics	Version	Nozzle K-value	Position	Art. no.
F180K15	Flat spray 180°	Self-closing	15	Side wall	84 8201
F180K28	Flat spray 180°	Self-closing	28	Side wall	84 1302
F180K40	Flat spray 180°	Self-closing	40	Side wall	84 1303
F180K52	Flat spray 180°	Self-closing	52	Side wall	84 1304
Accessory type					Art. no.
Mounting socket M36x1.5-F180, stainless steel					84 3471
Welding socket F180 flat spray nozzle, steel					84 3353
Welding socket F180 flat spray nozzle, stainless steel					84 7877
Valve unit					
Valve unit G1 – FLA with LKM2001 with leakage detector					84 2055
Valve unit G1 – FLA with LKM2001 Ex with leakage detector					84 3321
Valve unit G1 – FLA without LKM2001 without leakage detector					84 2056
Valve unit G1 – FLA without LKM2001 Ex without leakage detector					84 3322
Approvals					
VdS: E 8850003					
FM system approval: 3028418					

We reserve the right to make technical changes.

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