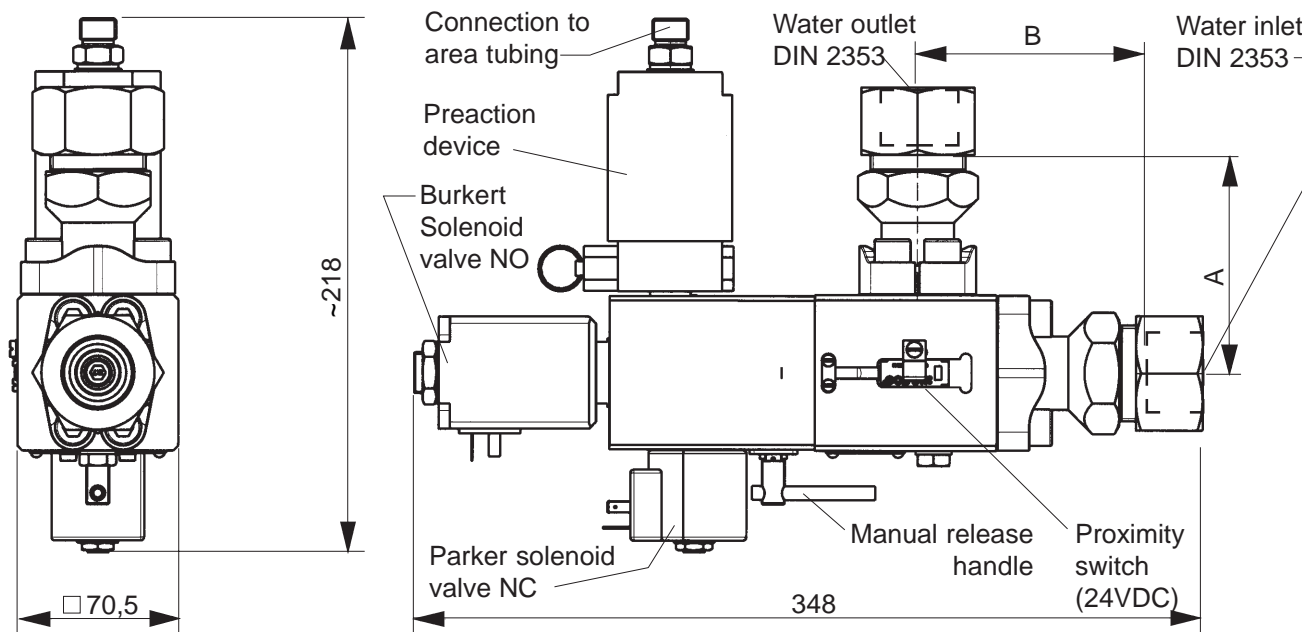


Product	Valve type	A [mm]	B [mm]	Water tube O.D. [mm]		NOTE!
				Inlet	Outlet	
D00091.A	SVM 20-A2N-S30/30-S-M	95,0	96,0	30,0	30,0	Standard product
D00091.1	SVM 20-B2N-S30/30-S-M	95,0	96,0	30,0	30,0	

**Description**

The preaction valve system suits for applications where special care must be taken before releasing the fire protection system in order to avoid water damages. Such delicate areas are, for example, heritage buildings, archives or museums, and process management areas in high technology industry.

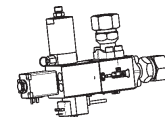
The preaction valve D00091.A and D00091.1 is installed so that wet tubes go between the pump unit and the preaction valve while dry tubes (pressurised air) go between the preaction valve and the sprinklers. The preaction valve is also connected to a fire detection system (FDS). The basic function idea of the preaction valve is that it releases the water mist discharge only when it has received signals from two sources: the fire has broken a sprinkler bulb and the FDS has detected a fire. A broken sprinkler bulb alone or a detected fire alone does not release the valve but only preactivates it. The dry tube air pressure needs to come down from the stand-by pressure 25 bar to 15 bar before the preaction valve is preactivated.

The preaction valves can be release in the following three different ways:

A: Using the manual release handle. This action opens the valve allowing the water flow to dry tube. The water discharge from the sprinklers requires the sprinkler bulb(s) to be broken.

B: Release caused by the FDS. This action opens both solenoid valves. The flow through the Burkert controlled valve is also guided through the preaction device if the lowering air stand-by pressure has released the preaction device. If the bulb(s) is not released, the water flow through the Burkert solenoid controlled valve stops at the preaction device. The flow through Parker controlled valve is directly led to the tubes and is either discharged through the open sprinklers (the bulb(s) released) or stops in tube against the air buffer (sprinkler bulb(s) not released).

C: Special case - electricity blackout in the valve electric circuit. The Burkert controlled valve opens and lets water flow to the preaction device. The preaction valve can be open (sprinkler bulb(s) released) or closed (sprinkler bulb(s) not released) that causes the water flow either to stop at the preaction device or to be discharged through the open sprinklers. The Parker controlled valve remains closed during an electricity blackout.



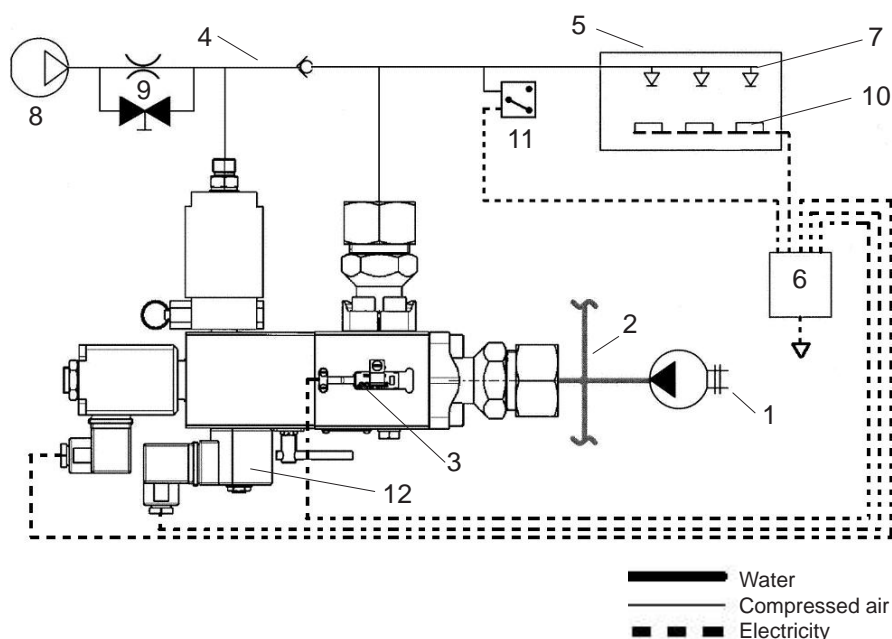
Note that the size of the protected area per one preaction valve is limited into 60 liters of tube volume. If the protected area is larger, it must be divided into smaller areas so that the tube volume limit is not exceeded.

Note that in the manual release the proximity switch may momentarily indicate a minor flow, but the valve will not stay open if the flow is not continuous.

The electric options for the proximity switch is 24VDC and for the solenoid valves 24VDC (standard product) and 230VAC.

Preaction valve application - schematic drawing

1. High pressure water pump unit
2. Supply tubing
3. Preaction valve
4. Area tubing (pressurised air filled)
5. Protected area
6. Control panel
7. Sprinkler (bulb released)
8. Compressed air supply
9. Orifice and by-pass valve
10. Fire detector
11. Pressure switch
12. Parker solenoid



Operating modes

1. Stand-by mode

In stand-by mode, the valve is closed:

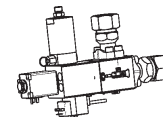
- manual release handle is closed
- electric circuit to Burkert solenoid valve is closed and the corresponding valve is closed
- preaction device is closed
- electric circuit to Parker solenoid valve is open and the corresponding valve is closed

2. Stand-by mode during electricity blackout

- manual release handle is closed
- electric circuit to Burkert solenoid valve is open and the corresponding valve is open
- preaction device is closed (when the bulb(s) is not released)
- electric circuit to Parker solenoid valve is open and the corresponding valve is closed

3. FDS alarm signal released

- manual release handle is closed
- electric circuit to Burkert solenoid valve is open and the corresponding valve is open
- preaction device is closed (when the bulb(s) is not released)
- electric circuit to Parker solenoid valve is closed and the corresponding valve is open. Water flows to dry tubes until the air pressure in tube prevents the flow, or the water is discharged from the released heat sensitive sprinklers.

**Proximity switch**

The proximity switch is always 24VDC.

The proximity switch is used to indicate flow in the preaction valve.

Operation voltage range: 8 - 30VDC

Switching current: 0,5 A

Contact rating: any combination of the switching voltage and current must not exceed the given rated power which is 10W.

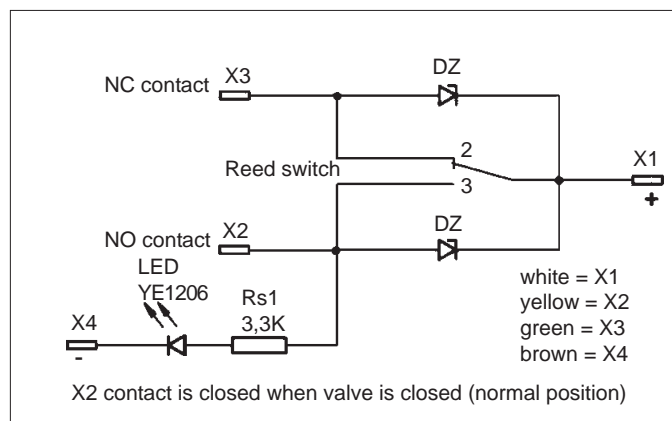


Figure: Proximity switch connections

Solenoid valve (Burkert)

The solenoid valve is used to keep the preaction valve closed (NO = normal open). In case of electricity black-out, the solenoid valve opens the preaction valve.

The solenoid valve needs to be set properly when the fire protection system is taken into use. The preaction valve stays open after it has opened.

The electric options are 24VDC (standard) and 230VAC.

Voltage	24VDC	230VAC
Inrush power	20 W	35 W
Hold power	20 W	20 W
Inrush current	0,83 A	0,15 A
Hold current	0,83 A	0,09 A

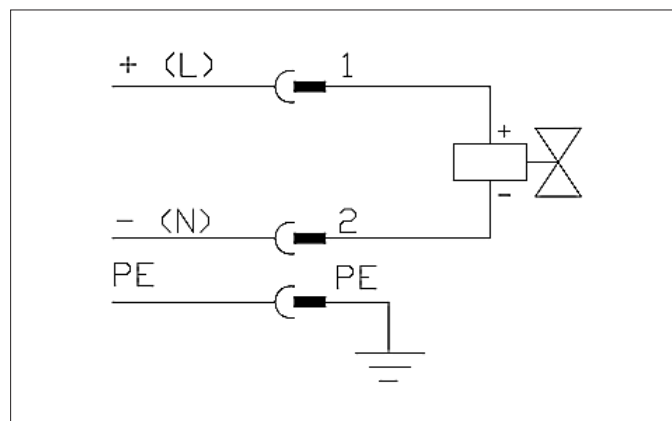


Figure: Solenoid valve connection

Solenoid valve (Parker)

The solenoid valve is used to keep the preaction valve closed (NO = normal open). In case of electricity black-out, the solenoid valve opens the preaction valve.

The solenoid valve needs to be set properly when the fire protection system is taken into use. The preaction valve stays open after it has opened.

The electric options are 24VDC (standard) and 230VAC.

Note! In one installation the solenoid valves are both either 24VDC or 230VAC.