



GROOVED WET ALARM CHECK VALVE

Type: ZSFZ8X9

Doc No: I-901-ZSFZ8X9-01-E-X

Installation Instruction

for Grooved Wet Alarm Valve

Model ZSFZ8X9

I. PRODUCT OVERVIEW

The alarm check valve works as a check valve by preventing the reverse flow of water from the system piping to the water supply. The valve is trimmed with a water bypass line, which has an in-line swing check valve. The bypass line allows pressure surges to enter the system and to be trapped above the alarm check valve's clapper without the clapper lifting and causing false alarms.

When significant flow of water occurs, such as from an open sprinkler, the alarm valve's clapper lifts and allows water to enter the system. Simultaneously, water enters an intermediate chamber, which allows the water to activate an alarm either through a water motor alarm or through a water pressure alarm. These alarms continue to sound until the flow of water is stopped.



Property Specifications

Rated Working Pressure		300 PSI
Nominal Diameter(DN)		3"(DN80)-8"(DN200)
Test Pressure	Shell Test	2 times o rated working pressure
	Seal Test (hydraulic)	2 times of rated working pressure
Working Temperature		0~80℃
Medium		Water

II. Precautions before Installation

1) check before installation

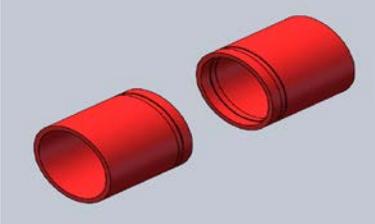
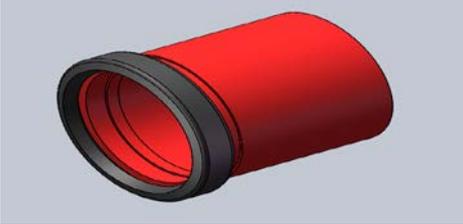
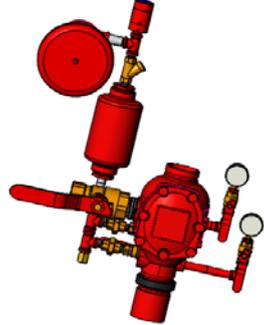
- a) Check whether the pipe fittings of the valve are complete and damaged.
- b) Check whether the valve nameplate, certificate of conformity and valve body casting information are consistent;
- c) Thoroughly clean the pipeline before installing the valve to ensure that there are no stones, welding slag and other debris in the pipeline.

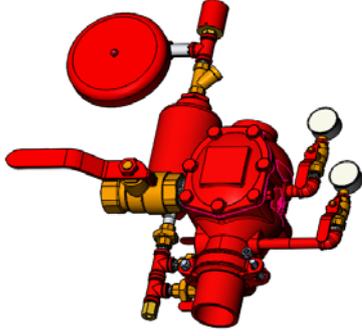
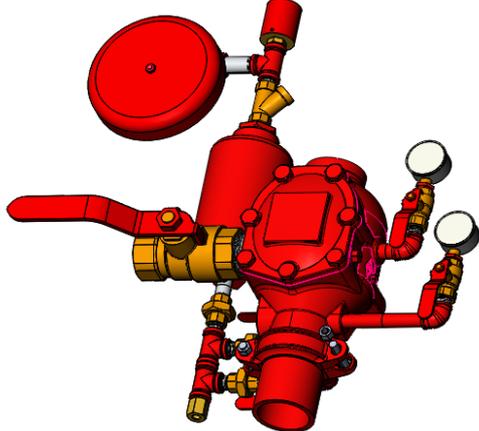
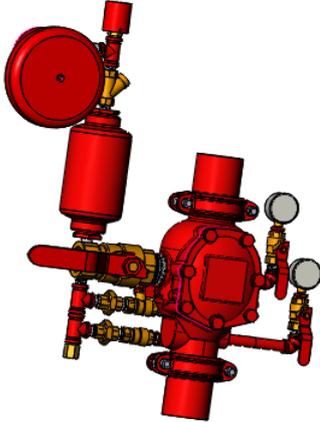
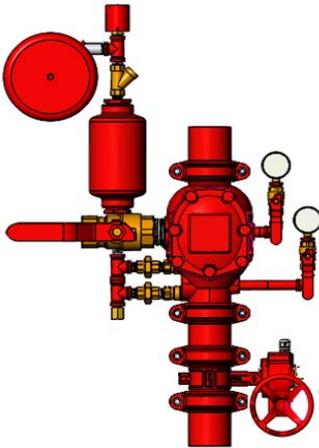
2) Precautions

- a) The wet alarm valve should be installed in a place that is easy to observe and easy

- to access, leaving the necessary maintenance space around;
- b) Butterfly valve with Tamper Switch should be installed before the main valve;
- c) Unpack the package and check if there is bumping at the flange joint of the wet alarm valve, whether the seal is intact, and whether the valve flap is flexible or not. If the above damage occurs, it should be replaced or eliminated in time;
- d) when the wet alarm valve is installed upwards or the water flows in the direction of the system pipe network;
- e) In order to facilitate the observation of the condition of the alarm line, it is best to drain it through an open port or in a form that can be seen to see the drainage.

III. Installation

<p>1. Pipe preparation Check pipe end for proper groove dimensions and to assure that pipe end is free of indentations and projections that would prevent proper sealing.</p>	
<p>2. Lubricate gasket Check gasket to be sure it's compatible for the intended service. Apply thin lubricant to the outside and sealing lips of the gasket.</p>	
<p>3. Gasket installation Slip the gasket over one pipe, making sure the gasket lip does not over-hang the pipe end.</p>	
<p>4. Alignment After aligning the pipe and valve end together, pull the gasket into position, centering between the grooves on pipe and valve. The gasket should not extend into the groove on either pipe.</p>	

<p>5. Coupling installation Remove one bolt & nut and loosen the other nut. Place one coupling's housing over the gasket, making sure the coupling's housing keys fit into the pipe grooves. Swing the other housing over the gasket and into the grooves on both pipes. Re-insert the bolt and connect two housings.</p>	
<p>6. Tighten nuts Firstly hand tightens nuts and make sure oval neck bolt completely fits into bolt hole. Then securely tighten nut alternatively and equally to the specified bolt torque by using spanner.</p>	
<p>7. Install the other end with coupling Repeat step 3.4.5.6 to complete the installation. Manually tighten the nut first, then use a torque wrench to rotate and evenly tighten the nuts on both ends of the tube to achieve the rated bolt torque and ensure that the elliptical neck of the two bolts completely fall into the bolt hole.</p>	
<p>8. Install the butterfly valve A butterfly valve with tamper switch should be installed in front of the main wet alarm valve for system maintenance.</p>	

Caution

Proper torquing of bolts is required to obtain specified performance. - Over torquing the bolts may result in damage to the bolt and / or casting which could result in pipe joint separation. - Under torquing the bolts may result in lower pressure retention capabilities, lower bend load capabilities, joint leakage and pipe joint separation. Pipe joint separation may result in significant property damage and serious injury.

Metric Rated Bolt Torque

Bolt size	Rated bolt torque*	
	Lb-Ft	N.m
Inch		
M10	30-45	40-60
M12	80-100	110-135
M16	100-130	135-175
M20	130-180	175-245
M22	180-240	245-325

IV. Test operation

1) Alarm test:

Open the end bleed test valve (DN25 ball valve) at the end of the automatic sprinkler system pipeline. When this valve is opened, water will flow out, and the water alarm bell, pressure switch and water flow indicator will send out alarm signals;

2) Water supply pipeline test

Close the alarm cut-off valve (DN20 ball valve) on the alarm line, and open the bleed test valve (DN25 ball valve). If there is a large amount of water flowing out, it indicates that the water supply pipeline is unblocked; otherwise the blockage should be checked and eliminated.

3) After the inspection, the alarm shut-off valve (DN20 ball valve) should be opened to keep the system in the servo state.

V. Maintenance

1) The valve is to be stored in dry cool conditions in the warehouses with good ventilation.

The ends of the valves are to be properly protected with caps to protect the sealing surface from the intrusion of dirt and other foreign stuff.

2) Valves should be checked regularly when storage for long time.

3) Check the marking and the qualifications before installation of the valve.

4) When there is failure or mal-function detected, should shut down the butterfly valve nearby for checking of the alarm valve immediately.

VI. Common Problems and Proposed Solutions

Possible Problems	Possible Causes	Proposed Solutions
Operating strength unusually large; Stem rotation difficult	Stem threading over worn	Check on the stem thread
	Stem threading filled with sundries	Clear away the sundries
Leakage through the jointing of valve body and bonnet	Bolts and nuts are not fully or evenly tightened	Tighten the bolts properly
	Seal ring damage	Change the seal ring
Leakage through the gate sealing surface	Not enough closing torque applied	Increase the closing torque to close the gate fully
	Sealing surface damage	Change the wedge gate
Leakage from upper stem	Seal ring damage	Change the seal ring