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ALARM CHECK VALVE

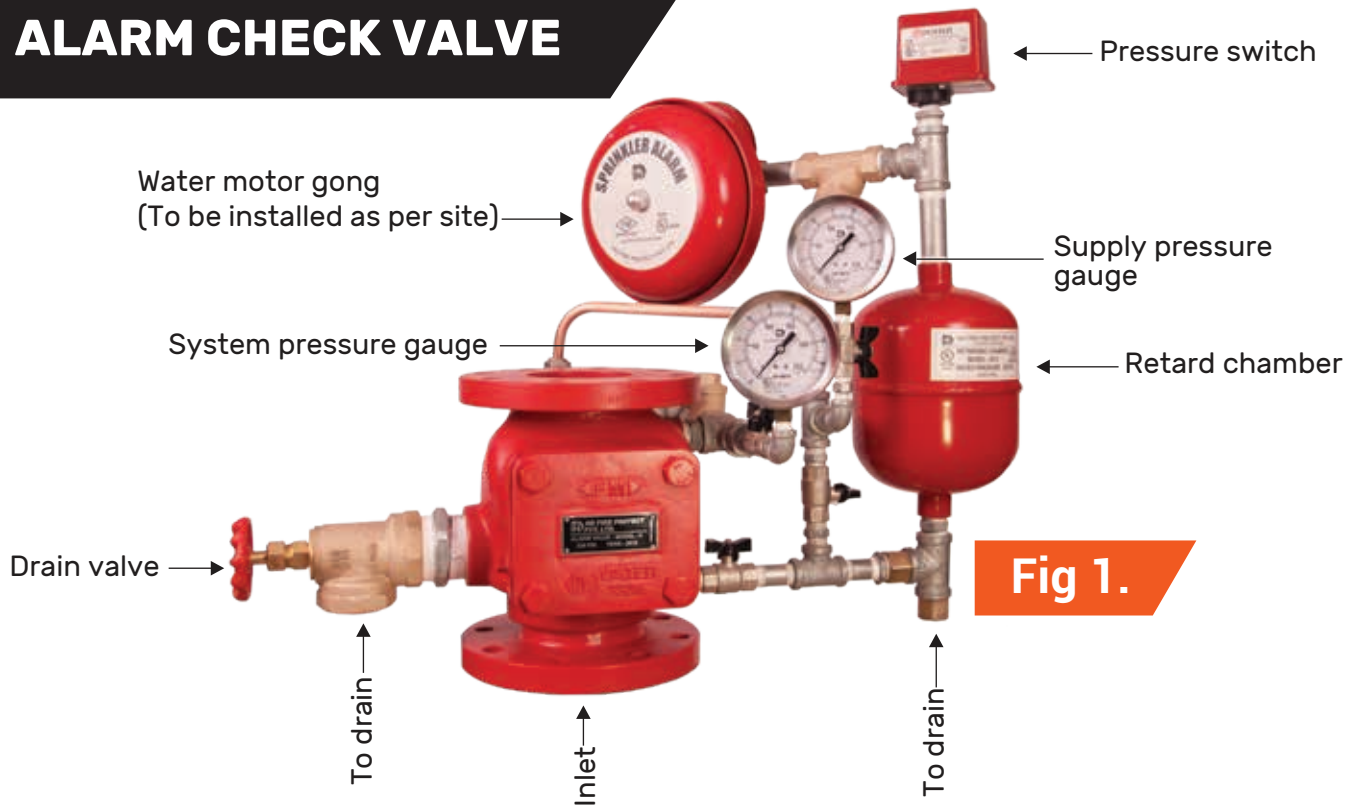

Fig 1.

OVERVIEW

- Alarm Valve is a double seated clapper check valve with grooved seat design, which ensures positive water flow for alarm operation and is designed for installation in wet pipe sprinkler system.
- External bypass prevents false alarm under all supply pressure condition. In the event of variable pressure condition, false alarm is prevented with the provision of retard chamber, thus the design allows for installation under both variable and constant supply pressure condition.

INSTALLATION

- Alarm Valve has to be installed in the direction as shown in Fig 1. with flow from downward to upward direction.
- Connect the water inlet and system piping.
- Connect the drain connections to common drain line or open drain.
- Do not restrict or reduce the drain piping.
- Connect the system piping to sprinkler line.
- Where water pressure fluctuates, the variable pressure trim with retard chamber must be used. Under non-fluctuating water pressure condition, the constant pressure trim, which does not include retard chamber, may be used.
- Refer to alarm valve catalogue (HD 247) for valve schematic, dimensions and maintenance instructions.

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SIGNALS DURING OPERATION

- During operation, Water Motor Gong will start an audible bell alarm.
- Pressure Switch shall provide L to H Signal.

NORMAL WORKING CONDITION

- The fire protection system initially when being pressurized, will allow water to flow into the system until water supply and system pressure is equalized and the clapper closes the waterway. Once the pressure is stabilized, the fire protection system is ready to be placed in service and then the alarm control valve must be opened.
- Under normal condition, the water pressure gauge connected to the system side of the alarm valve would show a higher or equal pressure reading than the water pressure gauge connected to the supply side of the valve.

PREVENTION OF ALARM DUE TO PRESSURE SURGES

- Sudden high pressure surge, as might be encountered by start-up of a large fire pump may lead the valve clapper to lift momentarily, allowing water to flow into the Retard Chamber. The water in the alarm line is automatically drained out, which helps to prevent false alarm due to successive transient surge in supply pressure.
- Restriction assembly located beneath the retard chamber consists of inlet and drain restriction orifices, which are established by considering the volume of the retard chamber to meet the listing and approval requirement.

FALSE ALARMS & PRECAUTIONS

- Inspect the valve rubber clapper face. If worn or damaged, replace it. Be certain that dirt, stone or any other foreign object have not accumulated under the clapper face and lodged in the groove or holes. Clean the clapper face thoroughly.
  If the seat ring surface is nicked or scoured, it might be possible to repair the same using lapping compound. If not, replace the complete valve or return it to the manufacturer's works for repair.
- If sprinkler alarm bell is not functioning or the impeller is jammed, please follow the maintenance guideline provided in the catalogue for sprinkler alarm bell.
- If pressure alarm switch gives a steady signal, but sprinkler alarm generates an intermittent alarm, check sprinkler alarm bell shaft. If both the sprinkler alarm bell and pressure alarm switch are generating intermittent alarm then check for the possible air which is trapped within the sprinkler system. Trapped air is to be bled off. Also the intermittent alarm may occur due to sudden pressure drop and increase in the system.

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