Model C
Mechanical Sprinkler Alarm

Instructions for Installation, Operation, Care and Maintenance

Listed and certified by Underwriters Laboratories Inc. (cULus). Approved by Factory Mutual Research Corporation (FM) and other fire insurance and governmental agencies in the United States and foreign countries.
**Installation Instructions**

The Model C Mechanical Sprinkler Alarm shall be located as near as the (wet) alarm, dry or deluge valve as practicable in order to avoid long runs or many fittings in the piping. The total length of the pipe should not exceed 75 feet (22.9 m) nor shall the mechanical sprinkler alarm be located over 20 feet (6.1 m) above the valve. If absolutely necessary to exceed 75 feet (22.9 m), the pipe line to the mechanical sprinkler alarm shall be increased one or more sizes to compensate for loss of pressure due to hydraulic friction.

1. Locate and cut a hole in the building wall for connecting a 3/4 inch (20 mm) support pipe of the appropriate length across the wall thickness plus 1 inch (25 mm).
2. Assemble the support pipe to the Wall Plate (95106603) without removing the Gong (93806612) and position this assembly on the outside wall with the support pipe through the wall.
3. Remove the Body Cover (92106603), Cover Gasket (93706602) and Pelton Wheel (97006603) from the Body (91006603).
4. Place the Wall Support Washer (96906603) over the support pipe as shown in the assembly drawing and screw the Body onto the support pipe until the entire assembly is aligned and secure to the wall.
5. Slip the Drive Shaft (96206603) thru the support pipe and into the Drive Shaft Adapter (90086601). Rotate the drive shaft to make sure it’s properly inserted (the gong will alarm). Mark and cut the drive shaft where it projects from the hub in the body.
6. With the drive shaft in place, make sure the Nylon Bearing (90506603) is in the hub and insert the Pelton Wheel through this onto the drive shaft. Spin the Pelton Wheel to ensure that the assembly is free and that the gong alarms.
7. Mount the Cover Gasket and Body Cover in place.
8. Connect alarm inlet to the (wet) alarm, dry pipe or deluge valve using galvanized or brass pipe of size not less than 3/4 inch (20 mm). An approved 3/4 inch (20 mm) strainer is included for installation near the alarm outlet of the (wet) alarm, dry pipe or deluge valve. For CE application, it is required that the provided strainer be installed close to the Model C mechanical sprinkler alarm using the supplied 2” (50.8 mm) long nipple. When a retarding chamber is used in connection with an alarm valve, the strainer shall be located at the outlet of the retarding chamber unless the retarding chamber is provided with an approved integral strainer in its outlet. The piping to the mechanical alarm should be pitched to allow proper drainage back through the strainer.

The 1 inch (25 mm) drain outlet should discharge into an open drain.

No single mechanical alarm should be connected to more than three sprinkler systems and they should be located in the same fire area. A 3/4 inch NPT (R3/4) swing check valve must be located in each alarm line near the junction(s) going to the Mechanical Alarm. This will assure that water flowing from the alarm port of the opened Valve will go directly to the water motor. A hole approximately 2 (3.2 mm) diameter should be drilled through the clapper of each check valve near the center.

**Operation**

When a (wet) alarm, dry pipe or deluge valve is operated due to fire water flows through the 3/4 inch (20 mm) strainer and 3/4 inch (20 mm) piping that connects the mechanical sprinkler alarm to the valve. On entering the mechanical sprinkler alarm inlet the water passes through the nozzle and impinges against the gong producing a continuous piercing alarm. The water, after impinging against the pelton wheel, drains through the 1 inch (25 mm) drain outlet in the body housing.

The alarm continues to sound as long as water is flowing through the sprinkler system. It may be shut off by closing the alarm control valve located in the alarm line connecting the mechanical sprinkler alarm with the (wet) alarm, dry pipe or deluge valve. Normally, the alarm control valve must be sealed in the open position.

The Model C Mechanical Sprinkler Alarm is self setting after each operation, eliminating the need of removing cover plates, etc. to reset internal mechanisms.

The Model C Mechanical Sprinkler Alarm is rated at 232 psi (16 bar) maximum allowable flowing pressure.
(A) METRIC BODY IDENTIFIED WITH “M”
(B) FOR “CE” APPLICATION (METRIC VERSION):
1. BRASS NOZZLE (ITEM 17) IS REQUIRED.
2. THE PROVIDED STRAINER (ITEM 15) AND 2” [50.80 mm]
   LONG NIPPLE (ITEM 16) MUST BE INSTALLED AS SHOWN.

### Model C Mechanical Sprinkler Alarm

ASA (P/N 6302000100)
Metric (P/N 6302000300)

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Should replacement parts be needed, use only genuine Reliable made parts.
When ordering, specify part number, name, model and serial number of the unit.
Testing

1. **Alarm Valve Installations**
   Refer to Alarm Valve Bulletins 407, 408 or 409.
   The mechanical sprinkler alarm may be tested without disturbing the alarm valve by opening the alarm test valve located in the piping line connecting it to the alarm valve inlet side.
   To test the mechanical sprinkler alarm and the alarm valve, open the 1 inch (25 mm) inspector's test connection. This connection is usually located at the end or top line of the system and its opening is equivalent to the fusing of one automatic sprinkler.

2. **Dry Pipe Valve Installations**
   Refer to Dry Pipe Valve Bulletins 350, 353 or 354.
   To test the mechanical sprinkler alarm, open the alarm test valve located in the piping connecting the sprinkler alarm to the dry pipe valve inlet side.
   Note: After testing, it is necessary to drain the water from the alarm line – refer to the dry pipe valve inspection and testing procedure.

3. **Deluge valve installations**
   Refer to Deluge Valve Bulletins 501 or 503.
   Test the mechanical sprinkler alarm by opening the alarm test valve located in the piping line connecting the sprinkler alarm to the deluge valve inlet side. After the test is completed, push in on the plunger of the mechanical ball drip valve until all water has drained from the alarm line.

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Maintenance

2. Strainer – Refer to respective alarm, dry pipe or deluge valve bulletins.
   A 3/4 inch (20 mm) strainer is located in the alarm line. Periodic removal and cleaning of the strainer will eliminate accumulation of trash and scale which can impair the flow of water, thereby preventing proper operation of the sprinkler alarm.
3. Clean-out – The Clean-out Plug (98604402) in the water motor should be removed periodically to remove any accumulation of trash and scale that may have passed through the strainer.
4. Bearings – These are nylon and do not require lubrication.

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**Inspection**

1. Check inside of gong for accumulation of trash, nests, etc.
2. Be sure the gong bolt (91106601) is secure.
3. Be sure that the 3/4 inch (20 mm) strainer is clean.
   **Note:** See “Maintenance.”
4. False alarms – Refer to Alarm Valve Bulletins 407 or 408.