

# Reliable®

## 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 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<sup>2</sup> (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. Alarm, dry pipe and deluge valve trimmings provide the proper drain outlet. Refer to respective valve bulletins for installation of trimmings.

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.

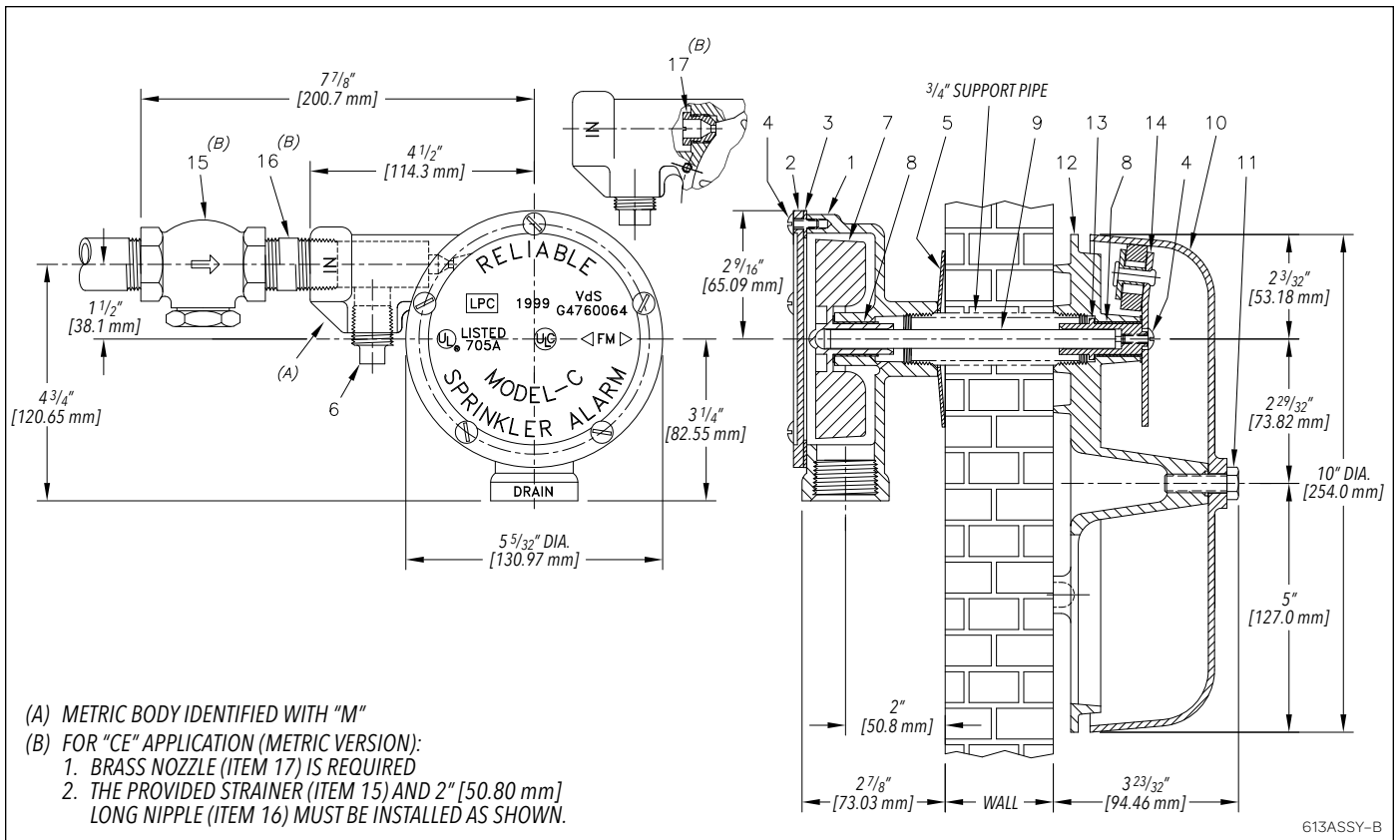
## Operation

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.



Model C Mechanical Sprinkler Alarm

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

**List of Model C Mechanical Sprinkler Alarm Parts**

Item	Part Number	Description	ASA	Metric
1	91006603	Body, ASA	1	0
	91006604	Body, Metric	0	1
2	92106603	Cover, ASA	1	0
	92106616	Cover, Metric	0	1
3	93706602	Gasket, Cover	1	1
4	95606604	Screw, Body Cover & Adapter	6	6
5	96906603	Washer, Wall Support	1	1
6	98604402	Plug, Clean-out	1	1
7	97006603	Pelton Wheel	1	1
8	90506603	Bearing	2	2
9	96206603	Shaft, Drive, 18"	1	1
10	93806612	Gong	1	1
11	91106601	Bolt, Gong	1	1
12	95106603	Wall Plate	1	1
13	90086601	Adapter, Drive Shaft	1	1
14	73020063	Striker Assembly	1	1
15	78650200	Strainer, 3/4" 24 Mesh	1	1
16	98543232	Nipple, 3/4" x 2" Long, Galv.	0	1
17	98580011	Nozzle, Brass	0	1

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.

## Maintenance

1. Sprinkler System – See NFPA 25 pamphlet – Inspection Testing and Maintenance of Sprinkler Systems.
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.

## 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.

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The equipment presented in this bulletin is to be installed in accordance with the latest published Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable. Products manufactured and distributed by Reliable have been protecting life and property for over 90 years, and are installed and serviced by the most highly qualified and reputable sprinkler contractors located throughout the United States, Canada and foreign countries.

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Manufactured by

**Reliable**<sup>®</sup>

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