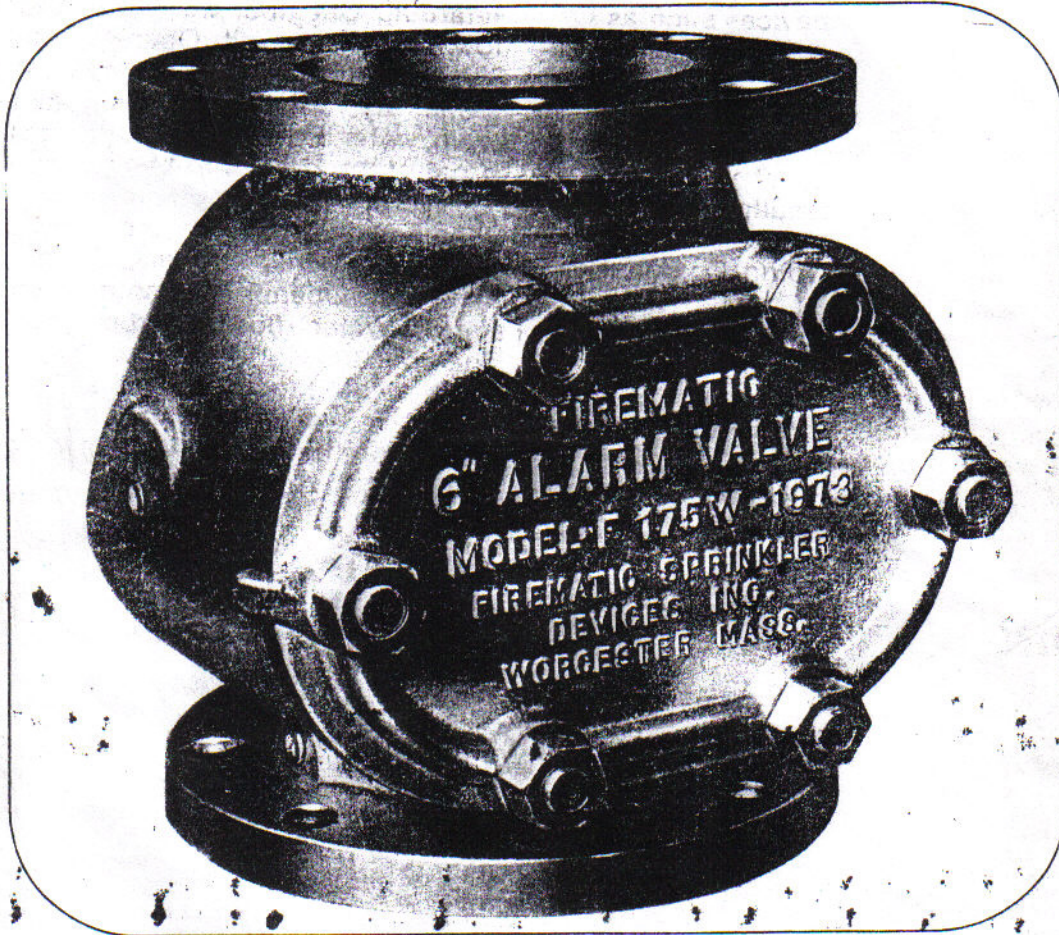


# Alarm Valve Model F Wet Pipe Only



Listed by: Underwriter's Laboratories, Inc.  
Approved by: Factory Mutual  
B.S. & A. of New York City  
Fire Officers Committee

DESCRIPTION • OPERATION  
TECHNICAL DATA

Manufacturers of Quality Fire Protection Devices

**Firematic Sprinkler Devices, Inc.**

Main Office and Plant-900 Boston Turnpike, Shrewsbury, Mass. 01545

Tel. (617) 845-2121 • Mats: 1-800-225-7288 (outside Massachusetts)



# DESCRIPTION

The Firematic Model F Alarm Valve, differential type, consists of a rubber faced bronze swing clapper seating on a grooved bronze seat. The seat is tinned to prevent the rubber clapper facing from sticking to the seat. A ball check is located in the center of the clapper to allow a normal surge on the water supply piping to pass into and become entrapped in the sprinkler system without opening the main clapper.

A Retarding Chamber is connected into the alarm line piping between the grooved seat of the Alarm Valve and alarm devices such as Circuit Opener\* or Circuit Closer\* and Water Motor Gong. False alarms are generally caused by water surge or a sudden increase in the supply pressure. This sudden fluctuation in pressure will cause the clapper of the Alarm Valve to open and close resulting in an intermittent flow of water to the Retarding Chamber. The Firematic Retarding Chamber employing a specially designed Venturi Tube drains the water from this intermittent flow with sufficient rapidity to prevent false alarms.

The Firematic Model F Alarm Valve is manufactured in 4", 6" and 8" sizes and can be installed in a vertical or horizontal position. This Alarm Valve carries Underwriter's Laboratories Listing and Factory Mutual Approval.

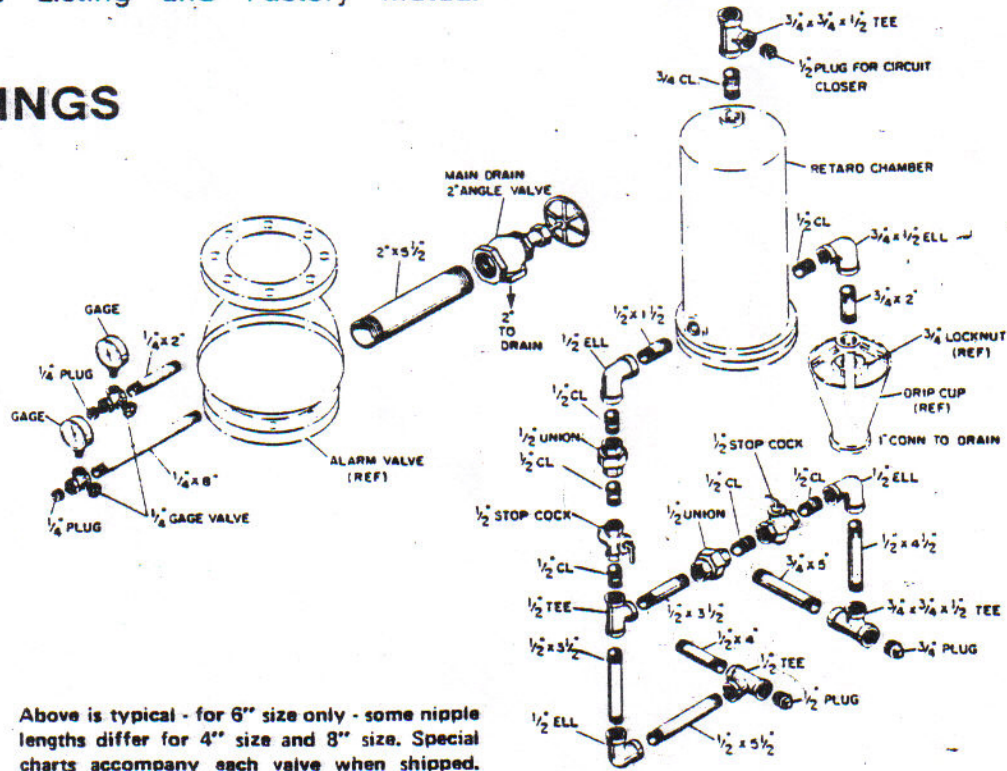
# OPERATION

When a sprinkler head or inspectors test valve is opened, pressure on the system side of the clapper is reduced below the pressure on the supply side. The clapper then raises off the grooved seat permitting water to flow to the Retarding Chamber and after filling the Retarding Chamber to the alarm devices.

The Retarding Chamber has a strainer in the intake line to prevent foreign matter from clogging the Venturi Tube. If the flow of water from the Alarm Valve is continuous and not the result of a water surge in the supply main, the Retarding Chamber will fill up and water will flow to the Circuit Opener and/or Circuit Closer and Water Motor Alarm. If the clapper is opened by repeated water surges and closes again, water drains out through a slot cut in the throat of the Venturi Tube and into Drip Cup.

Water coming from the Retarding Chamber through the pipe exerts a slight pressure against the diaphragm of Circuit Closer or Opener and sounds an electrical alarm. Water flowing from the Retarding Chamber through pipe also enters the Water Motor turning the paddle wheel which rotates the striker of a mechanical gong usually located on the outside wall of the building.

# TRIMMINGS



Above is typical - for 6" size only - some nipple lengths differ for 4" size and 8" size. Special charts accompany each valve when shipped.

COMPLETE VALVE ASSEMBLY - SHOWING TRIM AND RETARDING CHAMBER IN PLACE.

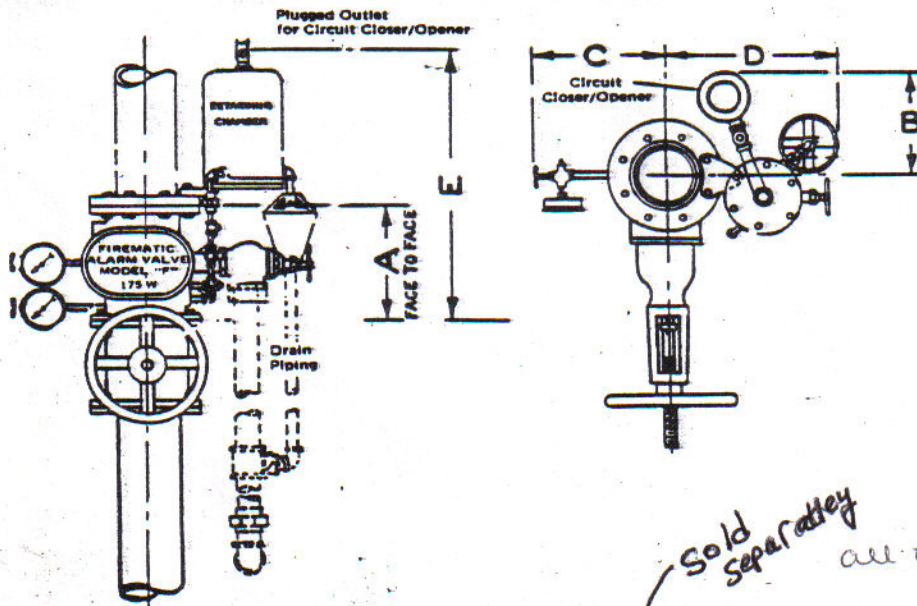
# MAINTENANCE

The Firematic Model F Alarm Valve is so constructed that there is nothing to adjust and under normal water and operating conditions requires very little maintenance. The only part that requires renewal is the rubber facing on the clapper. When this change is necessary, it is done as follows:

- Close main control valve (OS&Y or post indicator valve located outside building) to shut off water supply
- Open 2" drain valve.
- Vent sprinkler system by opening Inspectors Test Valve which is normally located at the top of the system.
- After system is completely drained remove cover plate.
- Raise Clapper off seat and scoop out any scale or solid particles around valve seat. Wipe the surface of the valve seat with a clean piece of cloth.
- Renew rubber facing on Clapper.
- Wash out Ball Check Valve in center of Clapper.

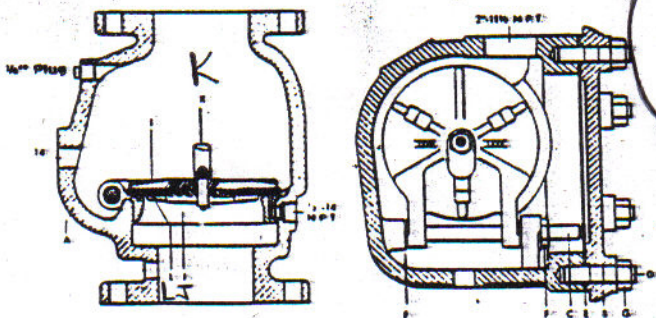
- Replace Cover Plate making sure Cover Plate Gasket is in good condition.
- Close 2" drain valve.
- Close Valve on alarm line to Retarding Chamber.
- Open main control valve slightly and allow system to fill with water slowly. This will prevent any foreign matter in the supply main from being washed into the Alarm Valve.
- Allow Inspectors Test Valve to remain open until a steady flow of water is maintained and then close tightly. This vents as much entrapped air in the sprinkler system as possible.
- When full pressure is built up in the sprinkler system open main control valve fully and seal.
- Open Valve on alarm line and seal.
- To test alarms, open Valve. This valve is on a by-pass connection taking water from below the Clapper and permits the alarms to be tested without raising the Clapper off the seat.

# INSTALLATION DIMENSIONS



	4"	6"	8"
A	12 $\frac{3}{8}$	12 $\frac{1}{2}$	13 $\frac{1}{2}$
B	10 $\frac{1}{2}$	10 $\frac{1}{2}$	10 $\frac{1}{2}$
C	13	13 $\frac{7}{8}$	15
D	18	17 $\frac{7}{8}$	19 $\frac{1}{2}$
E	29 $\frac{1}{2}$	29 $\frac{1}{2}$	30 $\frac{1}{2}$

Model "F" Vertical Alarm Valve - 4, 6 and 8 Inch



*Sold Separately*  
*all others - clapper assembly includes -*  
*all But cover gasket*

### PARTS LIST

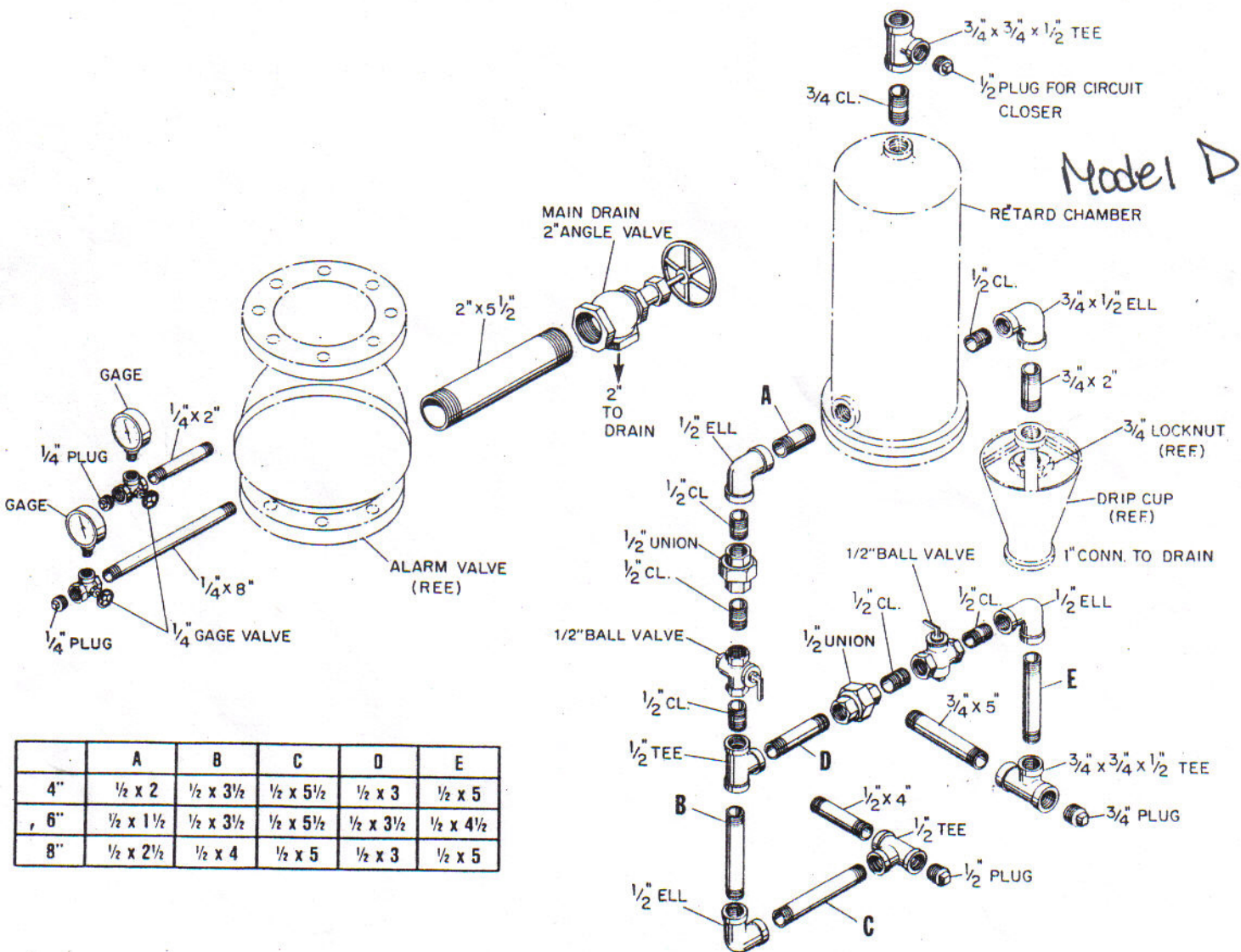
SYMBOL	PART NO. 4"	PART NO. 6"	PART NO. 8"	PART NAME Vertical Type
A	A-1	A-10	A-2	Body-For identification only
B	01-0003	01-0003	01-0004	Cover Plate
C	A-19	A-19	A-20	Clapper Pin
D	039-0008	039-0008	039-0008	Cover Plate Stud
E	A-51	A-51	A-52	Cover Plate Gasket
F	A-14	A-14	A-14	Clapper Pin Bushing
G	039-0005	039-0005	039-0005	Nut
H	A-69	A-69	A-69	Clapper Assembly
I	A-70	A-70	A-80	Clapper
J	A-71	A-71	A-81	Disc Washer
K	A-75	A-75	A-75	Ball Check Valve
L	A-6	A-6	A-17	Rubber Ring

# ALARM VALVE TRIM

## 4" - 6" - 8" Model F

Alarm Valve Trim

Retard Trim



	A	B	C	D	E
4"	1/2 x 2	1/2 x 3 1/2	1/2 x 5 1/2	1/2 x 3	1/2 x 5
6"	1/2 x 1 1/2	1/2 x 3 1/2	1/2 x 5 1/2	1/2 x 3 1/2	1/2 x 4 1/2
8"	1/2 x 2 1/2	1/2 x 4	1/2 x 5	1/2 x 3	1/2 x 5



**Firematic Sprinkler Devices, Inc.**

Main Office and Plant-900 Boston Turnpike, Shrewsbury, Mass. 01545

Tel. (617) 845-2121