



# TECHNICAL DATA

## RETARD CHAMBER MODEL C-1

The Viking Corporation, 5150 Beltway SE, Caledonia, MI 49316

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Visit the Viking website for the latest edition of this technical data page [www.vikinggroupinc.com](http://www.vikinggroupinc.com).

### 1. DESCRIPTION

The Viking Model C-1 Retard Chamber is a surge tank used with Viking Alarm Check Valves to reduce the possibility of false alarms due to changes in the water supply pressure.

#### Features

1. Ductile iron body
2. Self draining

### 2. LISTINGS AND APPROVALS

Refer to Table 1 for more information.



**cULus Listed:** VPLX and VPLX7 - 300 PSI (20.7 bar) MWP



**FM Approved:** Waterflow Alarm Valves - 300 PSI (20.7 bar) MWP



**VdS Approved:** VdS 2100-01 Wet Alarm Valve Stations; 16 bar (232 PSI) MWP



**LPCB Approved** - Standard EN12259-2 Part 2; Certificate No. 096b; 300 PSI (20.7 bar) MWP



**CE CPR;** Standard EN12259-2; DOP\_S0037; 300 PSI (20.7 bar) MWP



**UKCA** Standard EN12259-2; DOC\_S5031; 300 PSI (20.7 bar) MWP



**WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

### 3. TECHNICAL DATA

#### Specifications:

Pressure Rating - 300 PSI (20.7 bar) water working pressure.

Factory-tested hydrostatically to 600 PSI (41.4 bar).

Connections: 1/2" (15 mm) NPT inlet and 3/4" (20 mm) NPT outlet.

Capacity: 1 Gallon (4 Liters) Approx.

#### Material Standards:

Body: Ductile Iron 65-45-12.

Bushings: Cast Iron UNS-F12102

Coating: Viking black E-coat Spec SPF02 W01

Shipping Weight - 22 lbs. (10 kg.)

Available Since - 1986

**TABLE 1: ORDERING INFORMATION**

| Part Number        | Description                                  | Listings/Approvals |    |     |      |      |    | Availability       | Shipping Weight     |
|--------------------|--|--------------------|----|-----|------|------|----|--------------------|---------------------|
|                    |  | cULus              | FM | VdS | LPCB | UKCA | CE |                    |                     |
| 05904B             | Model C-1 Retard Chamber                     | ✓                  | ✓  | ✓   | ✓    | ✓    | ✓  | Americas/EMEA      | 22 lbs. (10 Kg)     |
| 25800              | Model C-1 Retard Chamber                     | ✓                  | ✓  | ✓   | ✓    | ✓    | ✓  | EMEA/APAC          | 22 lbs. (10 Kg)     |
| 25801              | Model C-1 Retard Chamber                     | ✓                  | ✓  | ✓   | ✓    | ✓    | ✓  | EMEA/APAC          | 22 lbs. (10 Kg)     |
| <b>Accessories</b> |  |                    |    |     |      |      |    |                    |                     |
| 06555A             | 1/8" (3.2mm) Restricted orifice <sup>1</sup> |                    |    |     |      |      |    | Americas/EMEA/APAC | 0.13 lbs. (0.06 Kg) |
| 01973A             | Circuit closer vent assembly <sup>2</sup>    |                    |    |     |      |      |    | Americas/EMEA/APAC | 2.95 lbs. (1.34 Kg) |

1. The restriction is required; however, it's included in Viking Alarm Check Valve trim sets designed for use with "variable pressure" water supplies.

2. The circuit closer vent assembly is required when an electric alarm pressure switch is installed without a Water Motor Alarm.



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### 4. INSTALLATION

1. The Retard Chamber and associated trim must be installed as shown on the Viking Alarm Check Valve Trim Sheets. The trim size and arrangement shown on Viking Trim Charts is required for proper operation.
2. Circuit Closer Vent Trim must be galvanized steel unless other materials are specified in the Technical Data for the system used.
3. The 1/8 inch Drain Restriction must be installed in the Retard Chamber drain piping. The alarm supply trim piping must be restricted as shown on Viking Alarm Check Valve Trim Charts. Model J-1 Alarm Check Valve trim requires a 7/32" Restricted Orifice (Part No. 06980A).
4. The Retard Chamber must drain automatically to a non-pressurized drain.
5. For the Retard Chamber to properly drain, it must be vented. This is normally accomplished through the Water Motor Alarm connection. However, when the line to the Water Motor is trapped or an electric Alarm Pressure Switch is used without the Water Motor Alarm, Circuit Closer Vent Trim must be installed and kept clean to allow the Retard Chamber to drain.
6. Verify that all system components are rated for the water working pressure of the system.

### 5. OPERATION

When the clapper of the alarm check Valve opens, water flows through the restricted alarm supply piping into the inlet of the Retard Chamber. The retard chamber begins to fill while simultaneously draining through the 1/8-inch (3.2 mm) drain restriction.

During a sustained flow of water, the retard chamber fills faster than water can drain through the drain restriction. Pressurized water fills the retard chamber and pressurizes the water motor alarm and/or alarm pressure switch. Pressure surges insufficient to overcome the volume and drain capacity of the Retard Chamber will not activate an alarm. Two retard chambers may be installed in series to combat false alarms from systems subject to excessive pressure surges.

### 6. INSPECTION, TESTS AND MAINTENANCE

**NOTICE: THE OWNER IS RESPONSIBLE FOR MAINTAINING THE FIRE PROTECTION SYSTEM AND DEVICES IN PROPER OPERATING CONDITION. THE VIKING MODEL C-1 RETARD CHAMBER AND ASSOCIATED PIPING MUST BE KEPT FREE OF FOREIGN MATTER, FREEZING CONDITIONS, AND PHYSICAL DAMAGE THAT COULD IMPAIR ITS OPERATION. THE FREQUENCY OF INSPECTIONS MAY VARY DUE TO CONTAMINATED OR CORROSIVE WATER SUPPLIES, CORROSIVE ATMOSPHERES, OR ACTIVITY AROUND THE DEVICE. ALARM DEVICES AND OTHER CONNECTED EQUIPMENT MAY REQUIRE MORE FREQUENT INSPECTIONS. REFER TO APPLICABLE CODES, SYSTEM DESCRIPTION, AND TECHNICAL DATA FOR THE EQUIPMENT USED.**

#### After installation and prior to each Waterflow Alarm Test:

1. Verify that the Alarm Check Valve and Retard Chamber are trimmed exactly as shown on Viking Trim Sheets with no deviations. The trim size and arrangement is required for proper operation.
2. Inspect and clean the 1/8 inch (3.2 mm) Drain Restriction at least annually.

#### After each operation and Waterflow Alarm Test:

1. Verify that the Retard Chamber and alarm line piping has drained completely and associated alarm equipment has properly reset.
2. Refer to Technical Data for the Water Motor Alarm, Alarm Pressure Switch, and other associated equipment for additional testing and maintenance requirements.

**WARNING: ANY SYSTEM MAINTENANCE INVOLVING PLACING A CONTROL VALVE OR ALARM SYSTEM OUT OF SERVICE MAY ELIMINATE THE FIRE PROTECTION CAPABILITIES OF THAT SYSTEM. PRIOR TO PROCEEDING, NOTIFY ALL AUTHORITIES HAVING JURISDICTION. CONSIDERATION SHOULD BE GIVEN TO EMPLOYMENT OF A FIRE PATROL IN THE AFFECTED AREAS.**

For minimum maintenance requirements, refer to NFPA 25. In addition, the Authority Having Jurisdiction may have additional maintenance requirements that must be followed.

### 7. AVAILABILITY

The Viking Retard Chamber is available through a network of domestic and international distributors. See the Viking Corp. Web site for closest distributor or contact The Viking Corporation.

### 8. GUARANTEES

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.



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### Figures 1 & 2 Notes

1. Connect alarm line piping to the 3/4" (20 mm) outlet of the Retard Chamber. When using a Water Motor Alarm, a strainer is required. When using an electric Alarm Pressure Switch only, or when the alarm line piping is trapped, Circuit Closer Vent Trim is required.
2. Items marked with \* are included in the Viking Circuit Closer Vent Trim sets.

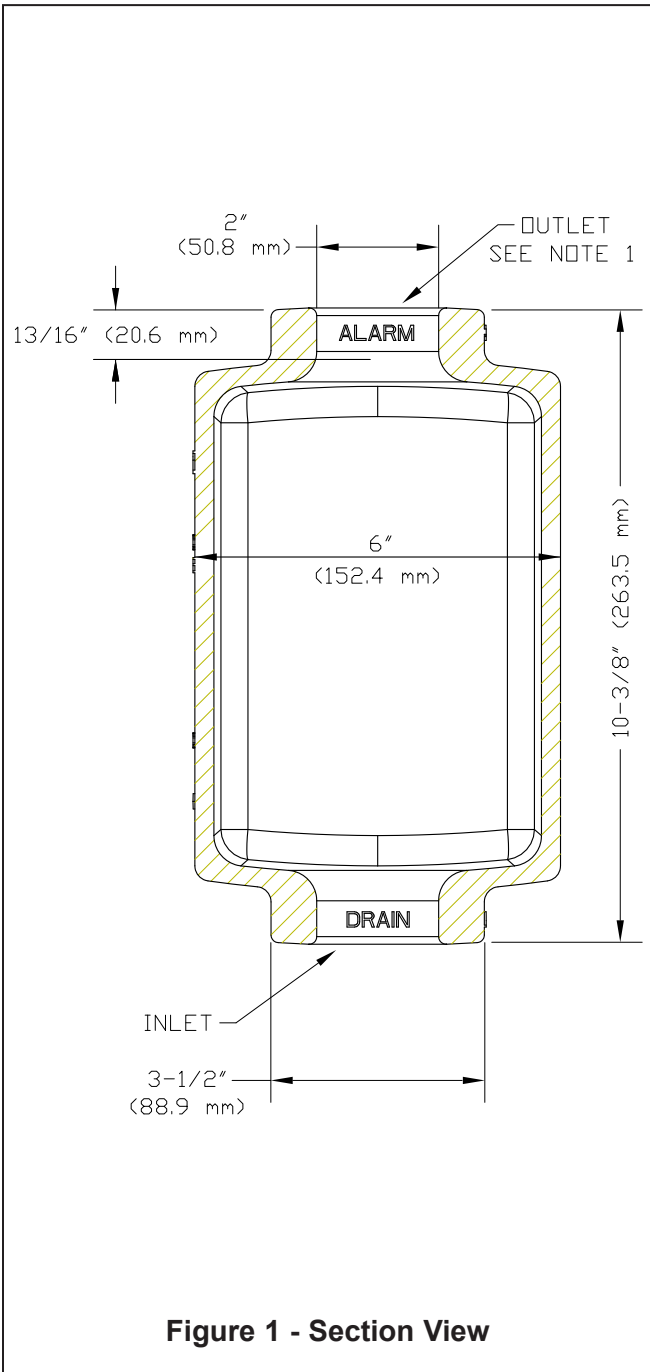


Figure 1 - Section View

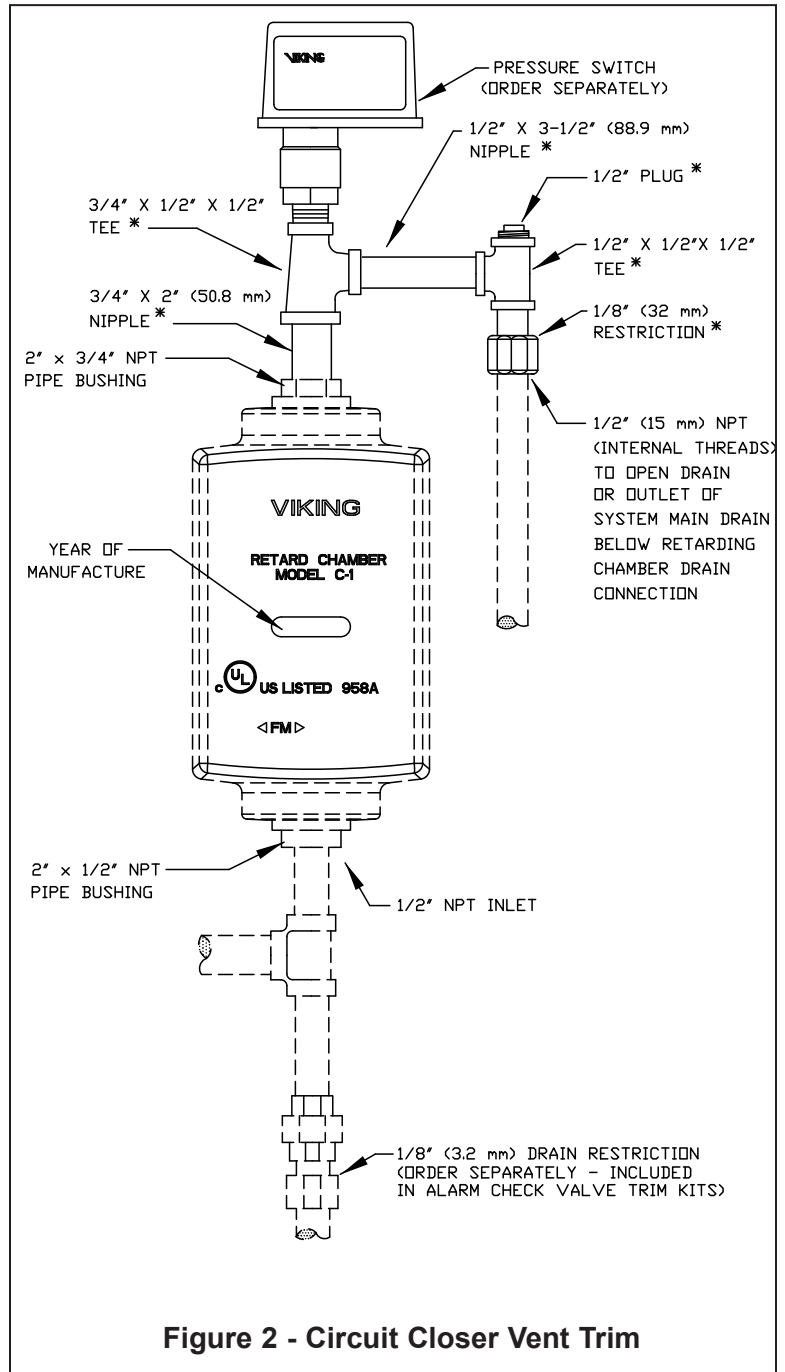


Figure 2 - Circuit Closer Vent Trim