

VIKING®

DESIGN DATA

OSCILLATING MONITOR

1. PRODUCT NAME

Viking Oscillating Monitor
Model VOM2543, 2-1/2" upper waterway
Viking Oscillating Monitor
Model VOM3043, 3" upper waterway

2. MANUFACTURED FOR

The Viking Corporation
210 N. Industrial Park Road
Hastings, Michigan 49058 U.S.A.
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3. PRODUCT DESCRIPTION

The Viking Models VOM2543 and VOM3043 Oscillating Monitors are water powered monitors which can be installed in systems discharging water or AFFF foam/water solution. Oscillating monitors are generally used in the following applications: underwing areas of aircraft hangars, helidecks, exposure protection, tank cooling, and open areas which require fire protection for flammable liquid fire protection.

4. TECHNICAL DATA

Minimum Recommended Ambient Temperature: 40°F (4°C)
Recommended maximum flow:
VOM2543 - 2-1/2" = 750 GPM
VOM3043 - 3" = 1200 GPM
Shipping weight of 2-1/2" monitor and oscillating base (Viking part no. VOM2543) : 148 Lbs.
Shipping weight of 3" monitor and oscillating base (Viking part no. VOM3043): 163 Lbs.

Material Standards:

- 4" Inlet with 150 lb. Steel ANSI flange connection bolt pattern.
- 3" Outlet with 150 lb. Steel ANSI flange connection bolt pattern.
- 3" Steel waterway through base coated with fusion bonded epoxy to resist corrosion



Arc of Oscillation of 0° to 180°. Arc degree of oscillation can be adjusted with mechanical stops.
Speed of oscillation adjustable to 10 to 30 seconds per cycle.
Operating cylinder of oscillating base stainless steel.
Oscillating mechanism can be tested for operation with the 3/4" garden hose test connection on oscillating base.

With proper nozzle, flow range recommended:
2-1/2" Monitor = 750 Max.
3" Monitor = 1250 Max.

5. AVAILABILITY AND SERVICE

Viking monitors and oscillating bases are available through a network of domestic and international distributors, see the Yellow Pages of the telephone directory for closest distributor (listed under "Sprinklers Automatic Fire") or write to The Viking Corporation, Hastings, Michigan U.S.A. 49058

6. GUARANTEES

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

7. INSTALLATION AND OPERATION

The Viking VOM2543 and VOM3043 discharges water and foam/water solution either directly at a hazard or in a sweeping motion (oscillating) onto a hazard.

1. The water or foam/water solution supply provided to the Viking Model VOM2543 or VOM3043 must be continuous, clean, and unobstructed.
2. The Viking Model VOM2543 or VOM3043 should be installed with adequate clearance for oscillation (if utilized) and be protected from physical damage. Adequate space should be maintained for maintenance and adjustment. Monitors are a deluge system device and should be provided with adequate shutoff capabilities while adjustment or maintenance is being performed.
3. Orient the oscillating base with the wide face of the enclosure towards the hazard area.
4. Oscillating base is to be securely mounted to a compatible piping flange. Piping to monitor base should be self-supporting and



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installed in such a manner that horizontal and vertical thrust of monitor will be supported. Consideration should be given to the installation of a base elbow or an auxiliary base which is available through the Viking Corporation.

5. To set the speed of oscillation, adjust the flow control valve, which is externally accessible. The speed can be set with system flow. The oscillation motion is provided by a single ended double action cylinder. With normal operation, a small amount of water (1.4 gal/cycle) is directed from the flow path to the cylinder via a filter and 4-way reversing valve.
6. Arc of oscillation is factory set and tested for 180°. Should the desired arc be less, remove the shroud, loosen the fasteners which position the strikers on the quadrant plate. Move the striker(s) to the approximate position and re-tighten. Test motion by introducing water through the test port. **Note:** If the arc is correct but not oriented correctly, simply reposition the monitor atop the base by loosening the horizontal motion lock knob, adjust the position of the barrel and re-tighten the lock knob. Vertical (barrel) orientation is adjusted in the same fashion. After adjustments are complete, replace shrouds. Place selector valve in the "RUN" position.

8. TESTING AND MAINTENANCE

It is imperative that the system be inspected and tested on a regular basis. This is the owners responsibility.

1. A 3/4" test port is supplied on the oscillating monitor base for periodic testing of oscillation without

flowing foam water solution. The 3/4" – 1 1/2" NH hose (garden) coupling is provided for connection to a potable water supply. Testing of oscillating monitor is performed by placing the test valve in the test position and supplying flow from the potable water supply.

2. A filter is provided upstream of the reversing valve to preclude pipe scale and other debris from entering the valve or cylinder. This filter is externally accessible for periodic cleaning.
3. Twice a year the automatic oscillating base should be tested to assure proper operation. With the system dry, connect a hose from a potable water supply to the test fitting. Move the selector valve to the "TEST" position. Initiate the water flow, the oscillating base should move through the selected arc of travel continuously. **Note:** Speed of travel may differ from that set with fire system pressure if water supply is significantly higher or lower, **DO NOT RE-ADJUST SPEED.** After testing, or other use, the filter element should be cleaned and re-installed. Reverse selector to the "RUN" position.
4. In addition to the bi-annual testing described above, the filter should be cleaned on an annual basis. The swivel joint should receive one shot per fitting of a good lithium based grease annually. All components should be examined while performing maintenance. Inspect for damaged parts. Damaged parts are to be repaired or replaced. **Note:** Do not grease drive cable.

9. FREEZE PROTECTION

The device is to be protected from freezing conditions.

1. To purge monitor of water, this can be accomplished by "stroking" the motion several times with a dry fire system. At the end of each stroke, an audible "click" will be heard signifying that a striker repositioned the reversing valve. Several strokes will eliminate nearly all the water.
2. Ethylene Glycol should be introduced through the test port. A short length of hose submerged in a container of pure Glycol will serve. Place the selector valve in the "Test" position. Stroke the oscillating mechanism several times and remove the hose.
3. An alternate method to protect the oscillating monitor from freezing is to make use of an optional purge cartridge available from The Viking Corporation. Connect the hose provided to the test port, place the selector valve in the "Test" position, and energize the cartridge. Pure glycol will be introduced to all wet portions of the oscillating mechanism. When purging is complete, de-energize the purge cartridge, disconnect the hose and place the test valve in the "Run" position.

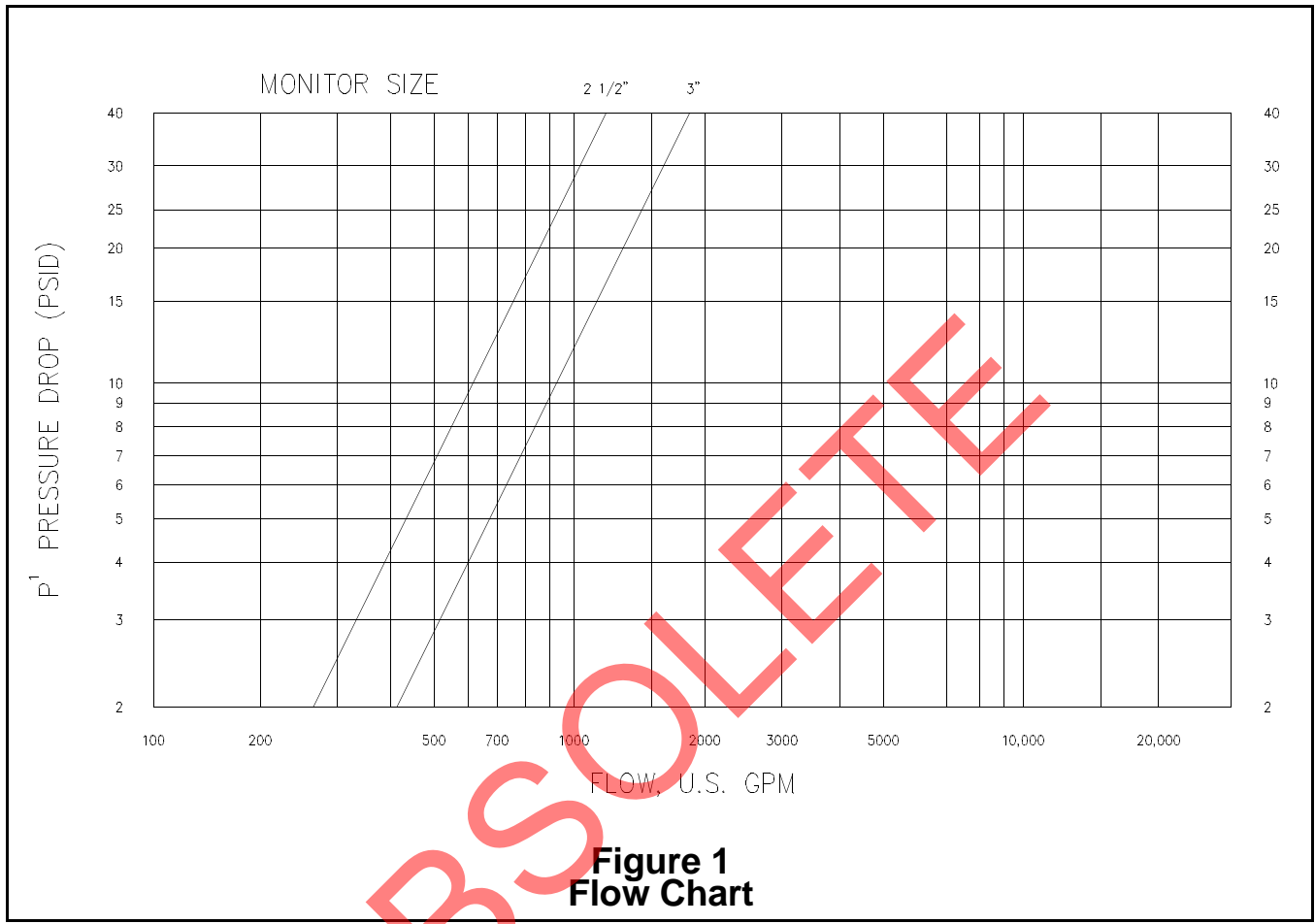
10. MANUAL OPERATION

The oscillating base is completely independent from the monitor attached to the top of the flange, manual operation in both planes requires that the monitor position lock knobs be loosened so that the monitor barrel can be positioned in any direction. In the event that it is desirable to position the monitor and leave it unattended, simply place the selector valve in the "Test" position, aim monitor and tighten both lock knobs. **Note:** After use, the selector valve should be returned to the "Run" position and the monitor re-positioned to the desired azimuth and elevation position.



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MATERIAL SPECIFICATION

1. Inlet 4" 150 lb. ANSI style with optional DIN PN 10 Flange connection bolt pattern steel with Stainless Steel optional.
2. Outlet 3" ANSI 150 lb. flange connection steel standard, with stainless. steel optional.
3. Waterway through base of 3" Pipe Steel with epoxy coating standard, and stainless steel type 316L optional.
4. Drive cable made of aircraft quality stainless steel for oscillating drive mechanism.
5. Arc of oscillation 0 to 180 degrees adjustable with mechanical stops that can be adjusted for arc degree of oscillation.
6. All fittings used for piping of operator are of brass compression type.
7. Tubing is copper through out.
8. All rod ends, Clevis and pulleys, pins and fasteners are of quality metal no plastic.
9. All valves and filter made of brass.
10. Seals of Buna N or EPDM.
11. Enclosure over complete unit leaving the bottom open. The enclosure is removable for maintenance. Material is steel with baked epoxy coating for corrosion resistance.
12. Operating cylinder of stainless steel.
13. Freeze protected with purge cartridge optional.
14. Test connection using 3/4" - 11-1/2 NH garden hose for testing operation of the oscillating mechanism.
15. The upper waterway shall be available in 2-1/2" and 3" long radius style to reduce friction loss including ball bearing swivel joints with seals and grease fittings and locking screws to fix into position or unlock for manual operation. The upper waterway is attached to oscillator with 3" 150 lb. ANSI flange connection. The material is steel with epoxy powder coating inside and out with a salt spray resistance of 1000 hrs at 5%. Corrosion resistant brass and stainless steel, is an option.
16. The waterway outlet shall include a 2-1/2" NH thread male connection.

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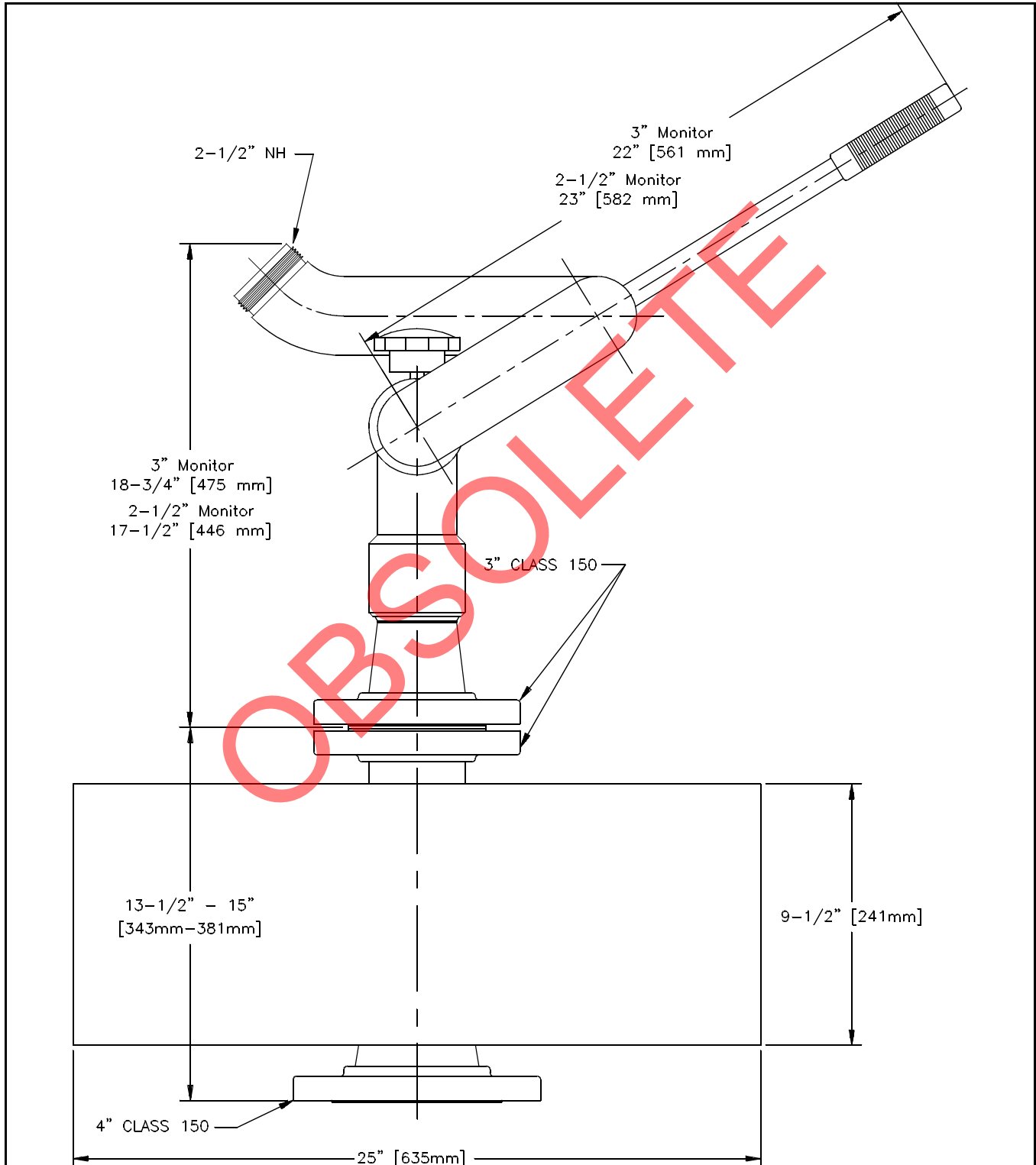


Figure 2