

Automatic Water Oscillating Monitor Model WOM-3

Features

- The elevation lock is easily set to any angle without tools.
- Controls are externally accessible. (These include the test connection, selector valve, speed control valve, and in-line filter.)
- Quick winterization is easy – no readjustment of end stops, breaking of plumbing, or use of glycol pumps.
- The simple manual override is obvious in function thus reducing training requirements.
- The automatic valve circuit is simple, using only one four-way valve.
- An alternate filter package (Part No. 77814) is available for applications where there is a problem with suspended particles in the water.
- Reliable chain drive is fully accessible by an easily removable cover.
- An optional 304 stainless steel waterway is available.
- Working parts are made of, or plated with, corrosion-resistant materials.

Description

For use with water or foam, the WOM-3 (formerly WOM-1) is a master stream device for fixed locations. The sweep is preset at installation to cover the hazard area but is also field adjustable.

Power to oscillate the monitor up to 200° horizontally comes from the water flowing through the device, eliminating the need for wiring, or hydraulic controls. Elevation is preset by means of a non-slip lock.

Water fog, straight bore or air-aspirating nozzles may be used with this 1,000 gpm (3,785 Lpm) capacity device.

Specifications and Materials

The monitor is operated by a reciprocating, water-powered piston and cylinder. A small flow of water, by-passed from the monitor inlet through a four-way valve, drives the cylinder. A stroke adjustment nut at each end of a threaded rod actuates the toggle action four-way valve, automatically reversing the cylinder at each end of the stroke. A stainless roller chain, attached to the cylinder heads and engaging a sprocket on the monitor base, converts the reciprocating cylinder motion to the oscillating motion.

INLET

4 in. 150 lb (8-hole) steel raised-face flange.

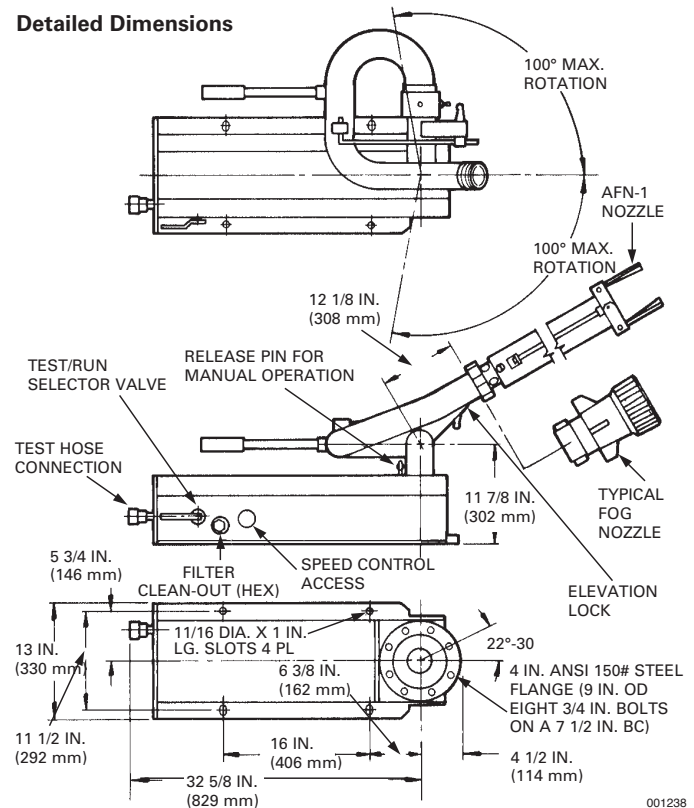
DISCHARGE

2 1/2 in. – 7 1/2 TPI NHT male thread.

VERTICAL RANGE SETTING

30° below horizontal to 60° above.

Detailed Dimensions



ARC OF OSCILLATION

0° through 200°. Stock setting is 100° to either side of front center. Sweep of arc is field adjustable in 12° increments throughout 360°.

WEIGHT

92 lb (41.7 kg) without nozzle.

MATERIALS USED

- Waterway – 304 S.S
- Chain – stainless steel
- Tube fittings, cylinder heads, valves, and piston – brass
- Rigid tubing – stainless steel
- Flex tubing – nylon
- Rod – stainless steel, hard chrome plated
- Finish on chassis, covers and waterway – polyurethane enamel over primer
- Fasteners – stainless steel
- Cylinder – oriented fiberglass in epoxy matrix with non-corrosive, lubricating, isophthalic polyester lining
- Seals – BunaN and Teflon
- Swivels and balls – stainless steel
- Working steel parts – plated with bright zinc

MOUNTING

Direct to 4 in. 150 lb customer companion flange. Four holes for 5/8 in. diameter bolts are provided in the chassis for mounting if customer plumbing is not adequate to support the monitor.

Specifications and Materials (Continued)

TEST CONNECTION

3/4 in. – 11 1/2 TPI NHT (garden hose) brass female swivel fitting with screen, externally accessible.

SPEED CONTROL

Brass needle valve, externally accessible.

“RUN-TEST” SELECTOR

3-way brass body ball valve with stainless steel ball and Teflon seats, externally accessible with provision for security seal in “run” position.

STANDARD FILTER

Brass body and cap with reusable 90 micron sintered bronze element. Cap externally accessible for cleaning.

ALTERNATE FILTER

The filter package is available for areas where water supply contains suspended particles. Mounting filter below mechanism requires 19 in. (483 mm) clearance to floor; 9 1/2 in. (241 mm) for side mounting.

FREEZE PROTECTABLE

Without use of tools, glycol pumping devices, adjustment of end stops, or breaking of plumbing.

MANUAL OPERATION

Possible by use of selector valve and removal of ring pin.

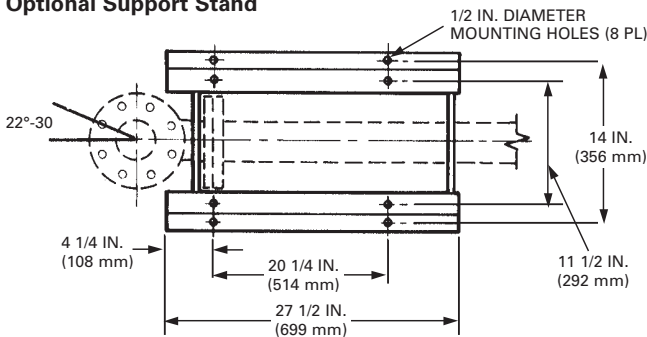
NOZZLE

ANSUL® Model AFN-1 air-aspirating foam nozzle or master stream nozzles for water and AFFF are recommended. Order separately.

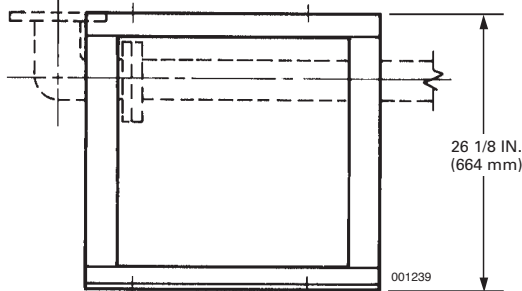
Application

- Aircraft Hangers
- Fueling Areas
- Helipads
- Refineries
- Tank Farms
- Docks
- Railroad Yards
- Lumber Mills
- Coal Storage
- Paper Mills
- Dust Abatement
- Satellite Facilities
- Exposure Protection
- Chemical Processes

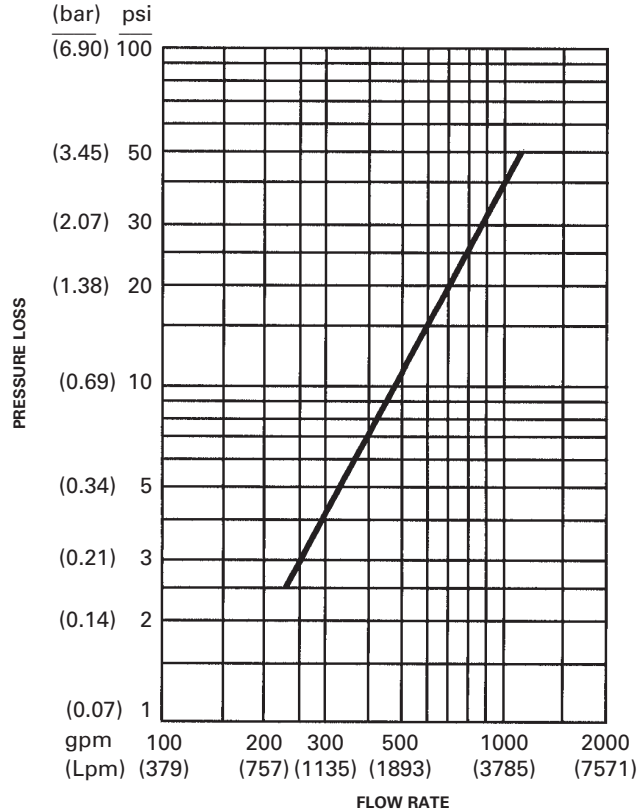
Optional Support Stand



Note: Pipe and flanges supplied by others.



Friction Loss vs Flow Rate – 3 in. Waterway, 4 in. Flange, 2 1/2 in. N.H. Outlet



Oscillating Monitor Nozzle Data

Formula to determine the maximum arc of oscillation to achieve a specific foam application rate (gpm/ft²) given a known nozzle flow rate and range:

$$\text{Formula: } X^\circ = \frac{F (360^\circ)}{(R)^2(\pi)(A)}$$

Where: X = Maximum arc of oscillation in degrees
 R = Nozzle range in feet
 $\pi = 3.1416$
 F = Nozzle flow rate in gpm
 A = Application rate in gpm/ft²

Example:

Given – Nozzle flow rate of 534 gpm @ 100 psi,
 desired nozzle range of 105 feet,
 desired application rate of 0.1 gpm/ft² (AFFF)

What is the maximum arc of oscillation allowable?

$$X^\circ = \frac{F (360^\circ)}{(R)^2(\pi)(A)} = \frac{(534)(360)}{(105)^2(3.1416)(0.1)}$$

$$X^\circ = 55 \frac{1}{2}^\circ$$

Ordering Information

Model	Part No.	Approx. Shipping Weight	lb	(kg)
WOM-3	400000	110		(49.9)
Alternate Filter	77814	10		(4.5)
WOM-3-SS*	400251	110		(49.9)

*Uses the CR paint system and corrosion-resistant materials in construction of oscillating mechanism.

Note: The converted metric values in this document are provided for dimensional reference only and do not reflect an actual measurement.

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