AUTOMATIC WATER OSCILLATING MONITOR MODEL WOM-4

Data/Specifications

FEATURES

- Approved by Factory Mutual.
- The elevation lock is easily set to any angle with handwheel.
- 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 water valve.
- Reliable chain drive which is fully accessible by an easily removable cover.
- An optional brass waterway is available.
- All of the working parts are made of, or plated with, corrosion-resistant materials.

DESCRIPTION

For use with water or foam, the WOM-4 is a master stream device for fixed locations. The sweep is pre-set at installation to cover the hazard area but is also field adjustable.

Power to oscillate the monitor up to 165° horizontally comes from the water flowing through the device, eliminating the need for wiring, or hydraulic controls. Elevation is pre-set by means of a handwheel worm gear drive.

Water fog, straight bore or air-aspirating nozzles may be used with this (automatic nozzles should not be used) 1750 gpm (3785 Lpm) capacity device. See data sheet titled AFN-2 Air Aspirating Foam Nozzles.

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) aluminum flange.

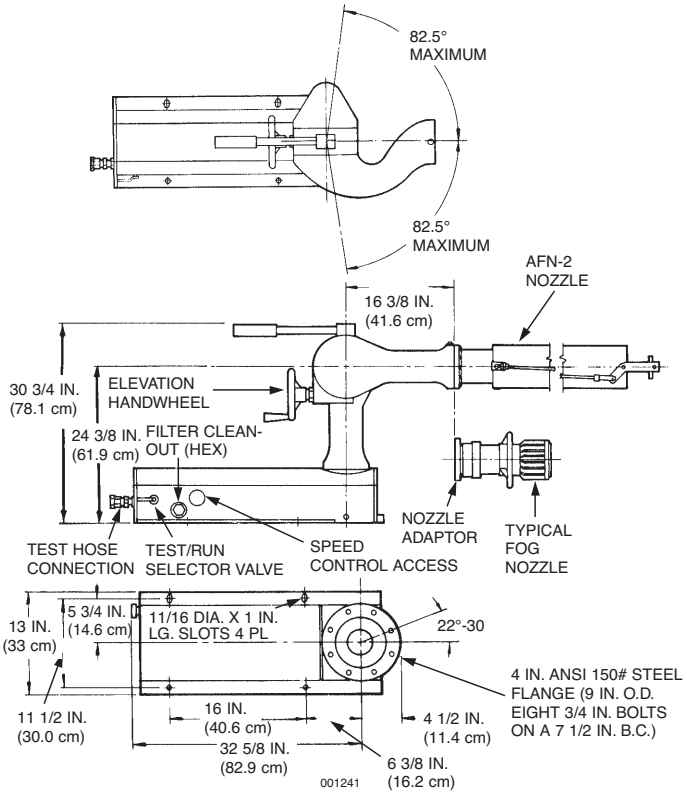
DISCHARGE
Special flanged connection for AFN-2 nozzle. NH nozzle adaptor also available.

VERTICAL RANGE SETTING
24° below horizontal to 90° above.

ARC OF OSCILLATION
0° through 165°. A 165° monitor sweep, when used with a dispersed pattern, will result in 180° coverage. Dispersed pattern with reduced range is required to meet foam application rates. Stock setting is 82.5° to either side of front center. Sweep of arc is field adjustable in 7.5° increments throughout 360°.

WEIGHT
130 lb (59 kg) without nozzle.

Detailed Dimensions



OPERATING PRESSURE
150 psi (1034 kPa) maximum.

MATERIALS USED
Waterway – A-356-T6 anodized aluminum (brass optional).
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 and covers – enamel over primer.
Fasteners – stainless steel.
Cylinder – oriented fiberglass in epoxy matrix with non-corrosive, lubricating, isophthalic polyester lining.
Seals – BunaN and Teflon.
Swivels – anodized aluminum.
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 inch diameter bolts are provided in the chassis for mounting if customer plumbing is not adequate to support the monitor. A stand is available for floor mounting.

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.

SPECIFICATIONS AND MATERIALS (Continued)

FILTER
Brass body and cap with reusable 90 micron sintered bronze element. Cap externally accessible for cleaning (standard). (Optional – 30-square-inch self-cleaning, 25 micron stainless steel strainer.)

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-2 air aspirating foam nozzle; or adaptor with non-aspirated master stream nozzles for water and AFFF use.

APPLICATION

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

OSCILLATING MONITOR NOZZLE DATA

Formula to determine the maximum arc of oscillation to achieve a specific foam application rate (gpm/ft^2) given a known nozzle flow rate and range:

Formula:

$$X° = \frac{F\,(360°)}{(R)^2(\pi)(A)}$$

Where: X = Maximum arc of oscillation in degrees
R = Nozzle range in feet
π = 3.1416
F = Nozzle flow rate in gpm
A = Application rate in gpm/ft^2

Example:

Given – Nozzle flow rate of 1250 gpm @ 100 psi, desired nozzle range of 125 feet, desired application rate of 0.1 gpm/ft^2 (AFFF)

What is the maximum arc of oscillation allowable?

$$X° = \frac{F\,(360°)}{(R)^2(\pi)(A)}$$

$$X° = \frac{(1250)(360)}{(125)^2(3.1416)(0.1)}$$

$$X° = 92°$$

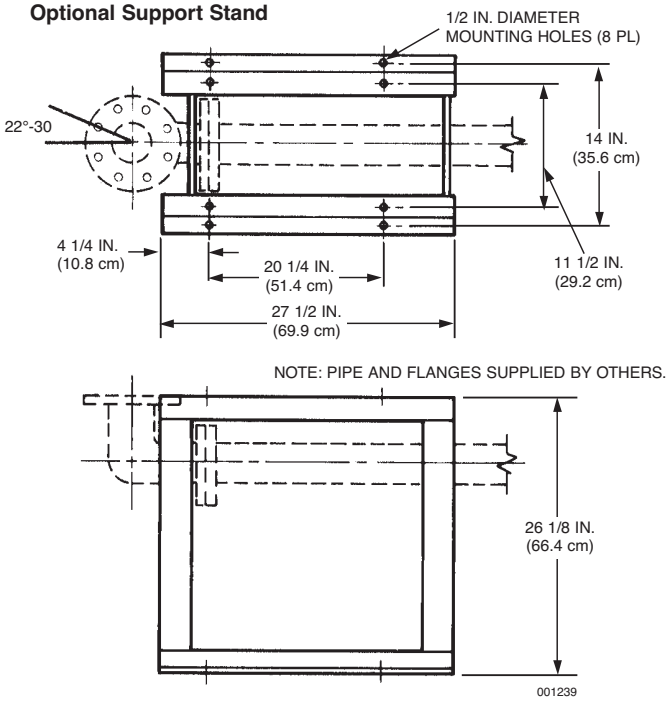
ORDERING INFORMATION

Model	Part No.	Approximate Shipping Weight lb	(kg)
WOM-4	402675	150	(68.0)
Support Stand	400987	70	(31.7)

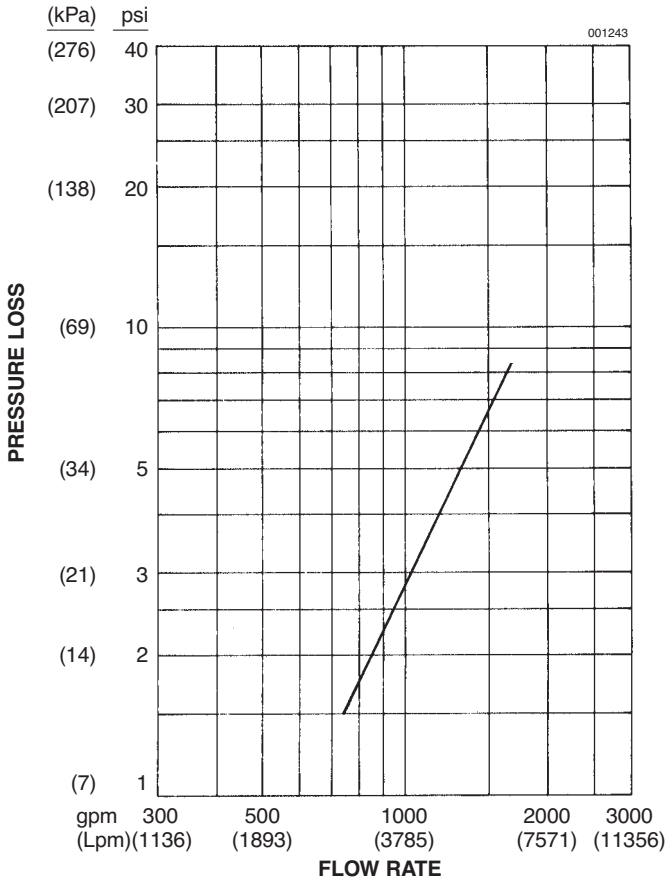
Adaptors

Part No.	Description
73743	WOM-4 Flange x 2 1/2 NH Alum
415794	WOM-4 Flange x 2 1/2 NH Brass
431039	WOM-4 Flange x 3 1/2 NH Brass

Optional Support Stand



Friction Loss vs Flow Rate
4 1/4 in. Waterway, 4 in. Flange, 4 in. Outlet



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Form No. F-86189-3