



## **8393 “STINGRAY” MONITOR INSTRUCTIONS**

### **Installation:**

- 1) Install monitor on riser pipe terminated with a companion flange or male pipe thread that matches the monitor inlet base. If the monitor has a 3” pipe thread base (NPT female), the minimum thread engagement should be 3/4”, or six (6) threads.
- 2) The riser **MUST** be strong enough to withstand the nozzle reaction force with the nozzle flowing a straight stream parallel to the ground. The maximum allowed reaction force for this monitor is 632 lbs. Use the friction loss for the monitor (and stream shaper if used) together with the available pressure and flow from your water supply to determine the pressure at the nozzle that you intend to use. Use one of the reaction force formulae below to determine that the reaction force of nozzle does not exceed 632 lbs. This monitor is designed for a maximum pressure at the inlet of 200 psi and a maximum flow rate of 1250 GPM (US).

#### **STRAIGHT BORE NOZZLES**

$$NR = 1.5 d^2 NP$$

NR = Nozzle Reaction (Pounds)

d = Nozzle Diameter (Inches)

NP = Nozzle (Pitot) Pressure (PSI)

#### **COMBINATION FOG NOZZLES**

$$NR = 0.0505 Q \sqrt{P}$$

NR = Nozzle Reaction (Pounds)

Q = Flow (US GPM)

P = Nozzle Pressure (PSI at base of

- 3) **NOZZLE REACTION FORCE NOT TO EXCEED 632 LBS.** If Monitor inlet pressure causes reaction force to exceed 632 lbs. an orifice plate must be used at the monitor inlet to bring the reaction force in line with the parameters described above.

### **Operation:**

- 1) The monitor discharge can be raised by turning the hand wheel in a counter-clockwise direction. It can be lowered by turning the hand wheel in a clockwise direction. There are internal stops at each end of travel.
- 2) The monitor can be rotated horizontally by releasing the horizontal twist-lock at the lower right and rotating the monitor by pushing or pulling on the monitors return bend. Turn the horizontal lock knob counter-clockwise to release the lock or clockwise to engage it.
- 3) When monitor is left unattended, **ALWAYS** lock the horizontal movement.
- 4) Because of the worm gearing on the vertical movement, no lock is needed. The vertical discharge will stay in the position in which it was last set.

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- 5) The monitor should be drained after use in freezing temperatures. 1) Shut off the water supply valve. 2) Turn the hand wheel until the monitor's discharge is at its lowest vertical position. 3) Drain the monitor(s) and piping by means of an automatic ball drip or other drain valve. 4) After the system has been drained place the monitor discharge back in the desired position.

**Maintenance:**

- 1) Move the monitor through its entire range of motion monthly. At this time, inspect the monitor for proper lubrication, especially in corrosive environments or in climates where ice could form in the monitor. Keeping the gearing and rotation joints well lubricated is important.
- 2) Every 3 months use a general petroleum based grease to lubricate the monitor through the two grease fittings until all contaminated grease has been expelled. Wipe off the expelled grease. One fitting is on the horizontal swivel and the other is on the end of the worm gear. Rotate the vertical & horizontal joints 45 degrees at a time through their entire range of motion while applying the grease.
- 3) If the monitor is subjected to vibration, check all fasteners and set screws for signs of loosening. If necessary, secure them with a "Loctite #242" or similar type of adhesive product.
- 4) For repair parts please consult the parts drawing on the Elkhart Brass website
- 5) Maintain the monitor paint as dictated by use and by the environment. The factory applied paint is a red (RAL 3003) urethane enamel.

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