

# FLOAT CONTROLLED PUMPS

May 28, 2002

*All inspection measurements are taken from the top of the riser in "INCHES"  
And recorded on the attached Tank diagram*

## 1. Determine Tank's Volume per Inch

Rectangular Tank

$$(L-6) \times (W-6) \times 7.48 \div 12 = \text{Gals per Inch (GPI)}$$

Round Tank

$$(D-6)^2 \times P \div 4 \times 7.48 \div 12 = \text{Gals per Inch (GPI)}$$

## 2. Tank Liquid Volume

Gals per Inch x Liquid depth = Liquid Volume

$$\text{GPI} \times (\text{Elv B} - \text{Elv Inlet}) = \text{Liquid Volume}$$

From the top of the Riser measure the inches to the bottom of the tank, that's Elv B;  
and measure the inches to the invert of the inlet, that's Elv Inlet.

## 3. Pump ON Elevation

$$\text{Elv B} - \text{Elv ON} = \text{Design Spec. ?}$$

With pump control in AUTO mode, fill the tank until the ON float turns on the pump,  
then turn off the water and turn the pump control to OFF. Now measure the inches to Elv ON.

## 4. Pump Alarm Elevation

$$\text{Elv B} - \text{Elv A} = \text{Design Spec. ?}$$

Leave pump control in OFF mode and continue to fill tank with water, when Alarm sounds, shut off water.  
Now measure the inches to Elv A

## 5. Pump OFF Elevation

$$\text{Elv B} - \text{Elv OFF} = \text{Design Spec. ?}$$

Note the time in minutes and seconds and turn the pump control to AUTO mode, allow the pump to lower  
water until it shuts off, note the time in minutes and seconds. Now measure the inches to Elv OFF

## 6. Dose Volume

$$(\text{Elv OFF} - \text{Elv ON}) \times \text{GPI} = \text{Gals of Dose}$$

Does this meet the Design Spec.?

## 7. Pump Rate

$$(\text{Elv OFF} - \text{Elv A}) \times \text{GPI} \div \text{Run Time minutes} = \text{GPM}$$

## 8. Emergency Storage

$$(\text{Elv A} - \text{Elv Inlet}) \times \text{GPI} = \text{Gals of Storage. Does this meet the Design Spec.?$$

## 9. Make sure that:

1. Elv OFF is < Pump intake Elevation (pump should not suck air before shutting off)
2. Elv OFF is < Screen Vault Inlets (at Elv OFF make sure no inlet holes are showing)
3. Elv ON is > Elv Inlet