

*INDEPENDENT 3RD PARTY LABORATORY
TESTING DONE BY*



Date: 03/30/2016

Subject: UV-Ozone cell test



Fig. 1- Experimental set up for gas phase performance chart

O₃zoneMAX™

Model OZ-50

A) Gas phase performance chart

For this test a vacuum pump was utilized to create the required air suction. Figure 2 shows the installation for the gas phase testing. The following data were obtained in a gas phase at T=69.2 oF, RH=36.8% and atmospheric pressure.

Air flow(lit/min)	Ozone concentration(ppm)	Production(mg/h)
3	75.1	28.92852
4	79	40.5744
7	69	62.0172
10	59	75.756
13	48.5	80.9562

The data can be plotted to generate desired performance chart.



Fig.2- gaseous ozone test.

B) Liquid phase performance chart

For the liquid phase testing, a flow meter was installed in the flow path. Flow rate was changed and consequently the ozone concentration in the liquid phase was measured. Figure 3 depicts the aqueous ozone testing.

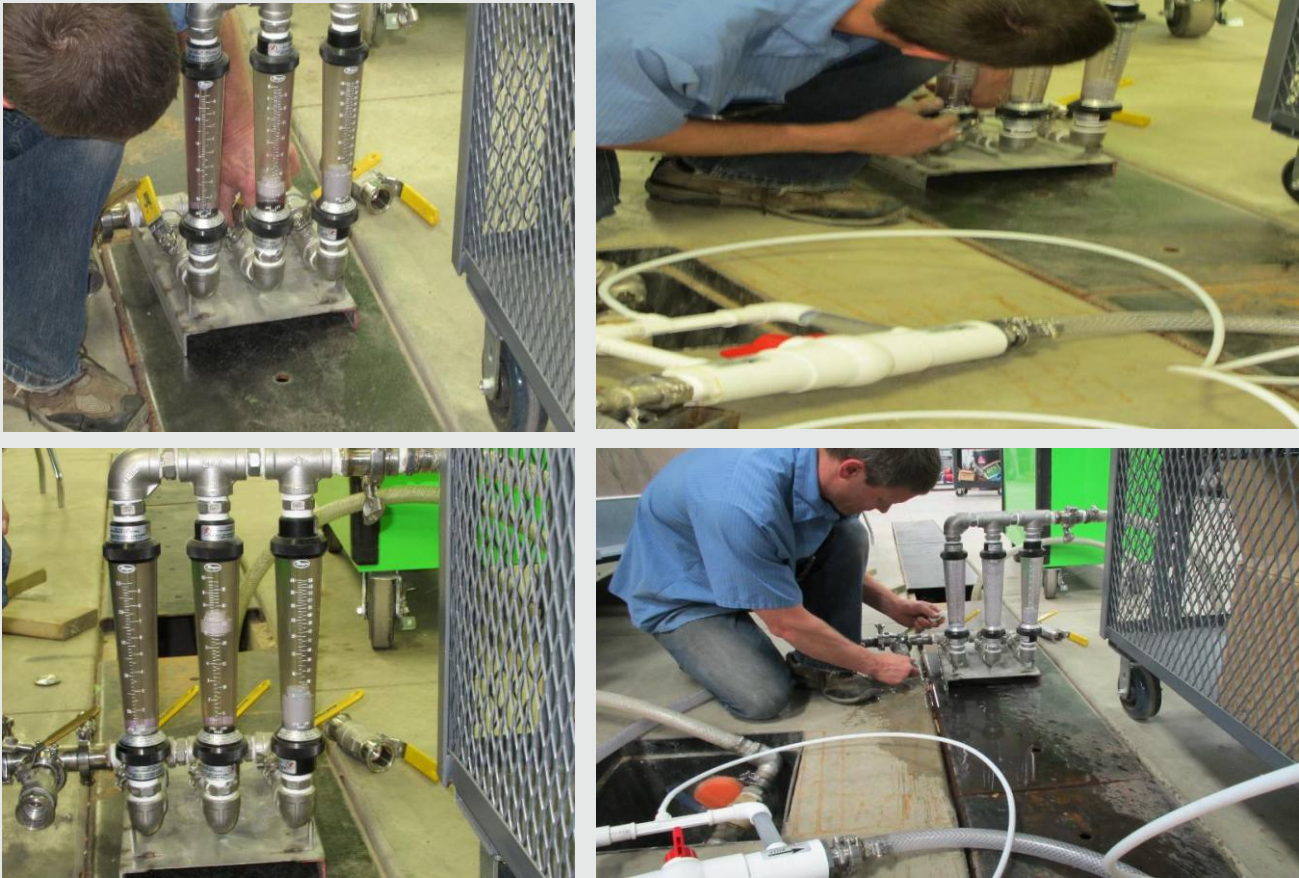


Fig. 3- Aqueous ozone test.

The following data were obtained for the water at 65 °F. Flow rates less than 4 gpm did not provide detectable ozone concentration.

Water flow(gpm)	Ozone concentration (ppm)
4	0.54
10	0.60
15	0.71
17	0.96
20	1.26
25	0.9
27	0.9

Results

The performance data have been provided based on the agreement. It seems that 20 gpm is the optimum point in aqueous ozone injection. Higher gpm's do not help in dissolving more ozone in the water.

Test Performed by: Dr. Gholamreza Zahedi



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