



Economic wine barrel rinse using ozone

Ozone rinse of barrels after hot or cold wash gives a large reduction in any bacteria remaining in the wood of the barrel. The highly ozonated water will penetrate the wood and destroy pathogens left behind after even the most thorough cleaning process. The only effective alternative to ozone being steam, which has high operating cost, is detrimental to barrel life and difficult to handle.

Ozone systems for water ozonation generate off gas in the process of dissolving the ozone gas into the water stream. Even though the undissolved off gas may be only 10% of the total product gas, it's still a large amount of ozone and will give rise to OH&S problems for the staff operating the system.

The trolley like products often promoted for barrel ozonation unfortunately suffer from this deficiency as the gas is injected directly into the water stream and will inevitably end up at the work face. In-line injection also raises difficulties with stop/start operation as the oxygen generator fails to reach acceptable purity levels for the first 20 seconds of operation.

In our process we use a high efficiency injector feeding a degas separator and contactor which provides a stream of off gas free ozonated water at a dissolved ozone level between 4 and 5 ppm (dependant on water chemistry) to the rinse unit at a pressure of 25-30 psi (170-200Kpa) and a flow rate of 50-60lpm. The water circulates continuously using a pressure relief valve that directs it back into the storage tank until the rinse valve is opened. That way there is no ramp up time for the equipment and the incoming water is given an ozone boost whilst in the circulation loop. The only addition is the requirement for a small collection tank of about 500+ litres.

The ozone generator is a T4400, 16 gm/hr system with a Topaz or Onyx oxygen generator. They can be mounted on a skid holding the pump, injector, degas separator, valves and gauges. The storage tank can be any poly unit of 500+L as it is not operating under pressure. The whole system is moveable by a forklift.

In summary:

We offer the highest levels of dissolved ozone possible, delivered off-gas free to the rinse head.

We offer the lowest levels possible of off gas in the work area removing the OH&S problems normally associated with this type of operation.

We offer a portable unit with the benefits of a large fixed system.

We offer this barrel rinse system at about half the cost of an overseas unit.

And we offer a system that needs no modification to sanitise a bottling line, storage tank or CIP pipework.

It's also locally manufactured and supported.



Product outline

T4400 ozone generator **555mm** **651mm** **253mm** **32kg**
230VAC 50Hz 2A
4 ozone cells, total of 16 gm/hr ozone

Topaz oxygen generator **440mm W** **260mm H** **680mm H** **27kg**
230VAC 50Hz 2.5A
5 LPM (litres per minute) oxygen at 92% purity

Onyx oxygen unit **400 mm W** **368mm D** **724mm H** **26kg**
5 LPM (litres per minute) oxygen at 92% purity
230VAC 50Hz 2A

Other equipment

- Lowara 4HMS7 pump,**
- Mazzei 1078 Kynar Injector**
- Mazzei DS150 PVDF Degas Separator**
- Plast-o-matic PTFE Pressure relief valve**
- Injector pressure sensors (to stop ozone if water pressure fails)**
- P1000 Palintest dissolved ozone tester**

We have the product and the flexibility to meet your needs.