



# Brewer Impressed by Results, not Promises.

*Separatist Beer Project turns to Strahman Valves, Inc. to help streamline the sanitation and cleaning process.*

Before founder and operator, Joe Percoco, of the [Separatist Beer Project](#) opened his brewery in 2016, his dream of brewing craft-style beers in the traditional Lambic method was first and foremost on his mind. Indoctrinated through an internship at the acclaimed Cantillon Brewery in Brussels, one of the few prevailing Lambic breweries in the world producing authentic Lambic beer since 1900, Joe was committed to learning the skills and methods from the old-world craft masters.



Joe Percoco, Founder  
Separatist Beer Project  
Easton & Philadelphia,  
Pennsylvania

Professional study and  
training at the esteemed  
Cantillon Brewery in  
Brussels, Belgium

## Challenge

Essential to the practice of producing a product in the style of traditional Lambic beer is the ability to harness the wild yeasts that are airborne and produced naturally in the environment; a process called *spontaneous fermentation*. The Separatist has perfected this process in achieving consistent results with every new batch making this their signature style. However, while conditions for the *spontaneous fermentation* process is ideal, it is contrary to the Separatist's on-demand needs for brewing other varieties of craft beer. Their at-will desire in brewing other selections can only be achieved when a clean and sanitized environment is secured.

Percoco was already familiar with the excellent reputation of [Strahman Valves](#) in providing best on

the market nozzles and premium quality wash down equipment and pre-rinse product. He sought their expertise as he was looking for a method of cleaning and sanitizing that would:

- be efficient
- eliminate the need for chemicals and steam
- have less impact on the environment
- be effortless to use

## Solution

The [C1 Ozone Mobile Cart](#) was the right solution for the Separatist Beer Project. “We need the ozone because we intend to produce many other varieties of beer in addition to spontaneously fermented beer, and ozone is the only way for us to ensure we can make sure the slate is clean for whatever we may want brew next [sic],” explains Percoco. Separatist has a unique facility because they feature a 90% oak barrel program. Their distinct Italian oak barrels are very expensive, about \$14,000 each and like other facilities such as wineries, the barrels will outlive the producer. “We need to maintain the integrity of the barrels. Steam and caustic chemicals for cleaning would cause permanent damage,” says Percoco. “We use it every day, in between batches, for wash down and for sanitizing the whole environment. The simplicity of it is that it takes about 5 minutes (30 seconds is the bare minimum) to sanitize equipment versus the typical 20-30 minutes of contact time if one is using chemical or steam. Since floors and walls also need disinfection, we use the gas mode at the end of each day. We maintain our fittings, corks for our bottled beer, and fermentation tanks both inside and out with ozone. Using the C1 is less labor-intensive and a better alternative.” With compatible ozone nozzles and accessories like drain cleaners and barrel rinsers, the C1 Ozone Mobile Cart is part of a comprehensive cleaning and sanitizing whole solution.

## Ozone’s Effectiveness Compared to Chemical Sanitizers

C1 Ozone Mobile Cart can move around quite easily, can reach hard to get to places around a facility, and is compact for easy storage. It excels at barrel, tank and surface sanitation with both dissolved ozone and a gas output function. “We had considered numerous options for cleaning and sanitation, but ozone was my first choice,” says Joe Percoco. The long-term benefits are clear:

- fast cleaning = less labor time and productivity
- gentle cleaning process vs. traditional harsh chemicals and detergents
- multi-purpose usage
- wash down floors
- sanitizes oak barrels
- decontaminates holding tanks
- sterilizes bottling equipment and other small parts
- purifies the plant

*A Stellar Reputation OEM  
Offering Simplicity and  
Versatility.*

*Strahman Valves, Inc.*



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Cleaning and sanitizing are one of the most essential procedures in any brew house, distillery or winery. Standard operating procedures involve hot water, the mixing and handling of harsh chemicals and detergents. For some, steam is used to sanitize barrels in between batches to eliminate contamination. But, because barrels are porous and steam cooks the cellulose in the wood and dries the wood in the process, it ruins the ability to harness the valuable yeasts from within. Caustic chemicals are used for cleaning stainless steel, and some use in their barrels, but the harsh chemicals will soak into the wood causing permanent damage. Ozone rinses (ozone dissolved in cold water) have no adverse effect on the barrels and eliminate the need for hot water usage, which is not always present and readily available around the plant.

Ozone is safe and organic—a naturally occurring molecule present in the atmosphere. Ozone used in two forms—dissolved in liquid and as a gas, is FDA approved. When dissolved in water, the level of concentration and the time of exposure are used to determine its effectiveness against pathogens—this is expressed as Contact Time (C/T). And ozone is an effective oxidizer that breaks down the carbon molecule bond in bacteria and viruses.

Ozone safely:

- eliminates the “on-demand” need for hot water
- minimizes or eliminates the need for any chemical or detergent sanitizers
- through oxidation kills pathogens and microorganisms, bacteria, mold and stray yeasts in the environment
- can be used for sanitizing the whole environment in accordance to product guidelines
- minimizes environmental impact leaving no residue

| Bacteria          | Ozone Exposure C/T           | Result           |
|-------------------|------------------------------|------------------|
| Salmonella        | 1 mg/l for 30 seconds        | <b>Destroyed</b> |
| Staphylococci     | 1.5 - 2mg/l for 30 seconds   | <b>Destroyed</b> |
| Stomatitis        | .1 to .8 mg/l for 30 seconds | <b>Destroyed</b> |
| Herpes            | .1 to .8 mg/l for 30 seconds | <b>Destroyed</b> |
| Escheriachia Coli | .2 mg/l for 30 seconds       | <b>Destroyed</b> |

C/T denotes Contact Time

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| Sanitizing Oxidizing Regent | Oxidizing Potential |
|-----------------------------|---------------------|
| Ozone                       | 2.07                |
| Hydrogen Peroxide           | 1.77                |
| Permanganate                | 1.67                |
| Hypochlorous Acid           | 1.49                |
| Chlorine Gas                | 1.36                |
| Hypobromous Acid            | 1.33                |
| Oxygen                      | 1.23                |
| Bromine                     | 1.09                |
| Hypoiodus Acid              | 0.99                |
| Chlorine Dioxide            | 0.95                |
| Hypochlorite                | 0.94                |
| Chlorite                    | 0.76                |
| Iodine                      | 0.54                |

The higher number of Oxidizing Potential, the greater the effectiveness at sanitizing.

*...cost savings on labor...cost savings on chemicals...improved workflow...nominal impact on the environment. Annual estimates are about \$20K savings in water treatment equipment and about \$5K savings on chemicals.*

## Result

Three years in use at the Separatist Beer Project, the [C1 Ozone Mobile Cart](#) has contributed to operational benefits in terms of cost savings on labor; substantial cost savings on chemicals in terms of minimal purchase; an improved workflow, and nominal impact on the environment.

Estimations in terms of overall savings are about \$20k in water treatment equipment and about \$5k/yr in chemicals. A city fee for the water treatment would likely be about \$25k year.



[The Clean Water Act of 1972](#) established specific guidelines and quality standards for regulating pollutant discharges into the waters of the United States. A typical operation will use an acid-based sanitizer to neutralize the waste before purging it through the drains and pipes. Oftentimes, the

*“Oftentimes, the operator will incur a surcharge for water treatment from local authorities... hefty fines are becoming a regular occurrence in the industry...”*

operator will incur a surcharge for water treatment from local authorities if the chemical level exceeds acceptable measures as defined by the EPA. Fines above \$100K are not uncommon. As the number of breweries are on the rise, the EPA is cracking down on non-compliance. “Nowadays, hefty fines are becoming a regular occurrence in the industry. Operators are expected to install water pretreatment process equipment which can cost as much as \$50K,” says Percoco. Ozone cleaning and sanitation greatly

reduces the risk of the operator for potential of sewage fees and fines, and eliminates the need for any costly pretreatment equipment. And, the fact that it is a naturally occurring substance in the atmosphere only means that it will not harm the environment. ☘

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I have no doubt that breweries, both large and small, would save time and money by sanitizing surfaces, equipment and floors with ozone.



## C1 Mobile Ozone System

The [C1 Mobile Cart](#) is a sophisticated, highly efficient and reliable cart-based ozone generating unit for getting to all the hard to reach places that need sanitizing or odor control throughout your facility. This compact, well-balanced unit has a low center of gravity for stability and requires little space for storage. Push-button on/off with full system monitoring indicators and a microprocessor for self-diagnostics makes the C1 simple to operate. The C1's critical operating system is sealed within the cart for safe operation around water and further secured by the stainless steel tubing welded frame and walls; rugged wheels can withstand getting around any environment with ease.

Because sanitation with Ozone is completely safe and FDA approved for food safety and quality, the need for harsh chemicals and detergents can be eliminated or minimized saving a facility money and storage. Dual zones, ozone in liquid and ozone gas, serve a wide range of purification applications and markets:

### Applications

- food & beverage
- ice machines
- cideries
- seafood processing
- breweries
- wineries
- agri-food processing



OZC1

| Specs                |   |
|----------------------|---|
| Size                 | 20.6"W x 26.3"D x 54.3"H                          |
| Weight               | 160 lbs.  |
| Electrical           | 110 VAC 60 hz, 12 amps                            |
| Ozone Output         | 18 g/hr @ 12 SCFH oxygen                          |
| Water Inlet Pressure | 40 psi  |
| Ozone Water Output*  | 8.0 ppm @ 10 gpm                                  |
| Nozzle               | M-70  |
| Hoses                | 5/8" I.D. 1 1/4" O.D. Extruded or Premium Wrapped |



\*Dissolved ozone water (max) @ gpm

C1 Mobile Ozone System comes with cart, hose and nozzle.

Push-button operated with full system monitoring indicators and microprocessors for self-diagnostics



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