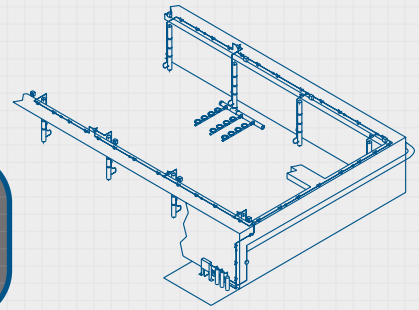


# Gas Cleaning System

For Fine Bubble Ceramic Disc Aeration Systems



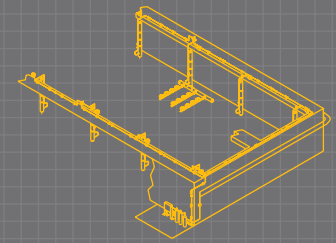
Sanitaire



ITT Industries  
*Engineered for life*

# Gas Cleaning System

## For Fine Bubble Ceramic Disc Aeration Systems



## Technology You Can Count On

**SANITAIRE® is the trade name recognized** throughout the wastewater treatment industry for quality products and advanced technology. The In-Place Gas Cleaning System is recognized world wide for its ability to clean porous ceramic fine bubble diffusers in-place, efficiently and without interruption to the process or dewatering of aeration tanks. The patented In-Place Gas Cleaning System was developed by Sanitaire in response to a need within the wastewater treatment industry to reduce the maintenance costs associated the manual cleaning of fine bubble diffusers.

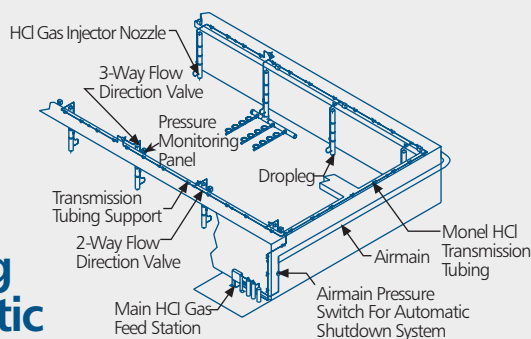
## System Benefits

### Regular use of the In-Place Gas Cleaning System:

- Minimizes the amount of foulant accumulation on diffusers.
- Minimizes the loss of oxygen transfer efficiency (OTE) due to fouled diffusers.
- Maintains system operating pressures at like-new condition.
- Reduces electrical energy costs.

The bottom line benefits include significant power savings, elimination of plant downtime and reduced maintenance costs.

### HCl Gas Cleaning Schematic





## System Performance

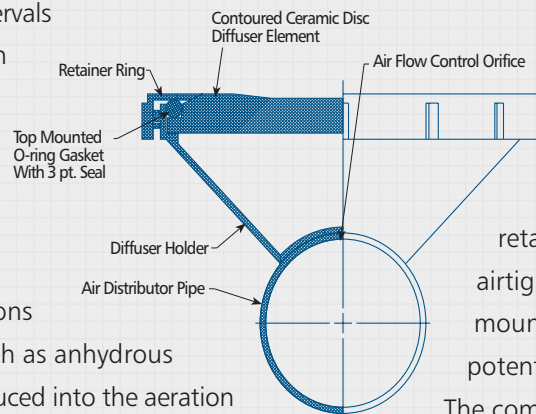
### Sanitaire's patented In-Place Gas Cleaning System

is a preventative maintenance process designed to be used regularly by plant staff. The system works most effectively when used at regular intervals to remove foulant accumulation on ceramic disc diffusers. Elevated system back pressure values, visual observation of changing surface patterns or decreased blower efficiencies determine cleaning requirements. When these conditions are apparent, a cleaning agent such as anhydrous hydrochloric (HCl) acid gas is introduced into the aeration grid. This is accomplished by injecting the gas into the drop pipe that conveys the process air to the diffusers.

**The HCl gas is soluble in water.** The gas permeates through the pores of the ceramic diffuser with the process air. At the air/water interface within the diffuser, it combines with water to form concentrated hydrochloric acid. The unique Sanitaire cleaning process ensures that the most concentrated acid forms within the pores of the diffuser where the fouling is most severe. It also provides for continuous replenishment of the acid during the cleaning procedure. The resultant hydrochloric acid mixture reacts with and dissolves soluble minerals that form precipitants in the diffuser. Attached biological foulants are also removed by the localized depression of the pH at the diffuser surface. This combined cleaning action typically restores the porous ceramic diffusers to like-new conditions in less than thirty minutes without the need to drain the tank or interrupt the biological treatment process. The time-proven Sanitaire process does not harm the microbial population in the basin or change the pH of the activated sludge system.

## Compatible Aeration Systems

The Sanitaire In-Place Gas Cleaning Process performs most effectively with the SANITAIRE ceramic disc fine bubble aeration system.



**Sanitaire's ceramic disc** diffuser incorporates a uniquely contoured disc diffuser design that promotes dependable, uniform air distribution. The diffuser design also uses a threaded retainer ring/holder concept that ensures an airtight seal between the diffuser and top mounted O-ring gasket, thereby eliminating potential leaks, even after years of operation.

The combination of these features ensures that the cleaning gas will permeate the fouled ceramic pores with the process air.

Other diffusers that use flat contours have poor air distribution and channel gasket seals that are prone to leakage. These deficiencies allow the cleaning gas to short-circuit through air leaks without penetrating the fouled pores of the diffuser.

**Sanitaire's sales and engineering teams** can draw upon decades of collective experience to determine if the In-Place Gas Cleaning System is right for your application. Our engineers can also design a diffused aeration system tailored to your specific application.

### Contact Sanitaire - the aeration leader for more information

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