



Air Sanitizing Technology Solution

What is nebulisation?

The nebulisation is the reduction of a liquid in tiny pieces (drops), without varying its state of aggregation, in other words, without immediately shifting to the vapour state, but by increasing the interfacial area that separates the liquid phase from the gaseous increasing, therefore, the speed of the phase transition. The evaporation rate is inversely proportional to the diameter of the drop. Similar systems, but with coarser droplets, are the atomization and brumization.

Why is this nebulisation system different?

The nebulisation system is very different because it uses the Venturi system and, therefore, only air to diffuse the active liquid compounds in the surrounding environment is used. This technology allows to reduce the liquid in extremely small droplets thus obtaining an almost gaseous nebulized substance, so that not to wet the surfaces with whom it comes in contact. Traditional systems, on the contrary, are not always able to achieve this result, forming a coarser mist that tends to set down and wet the surfaces. The systems that use propellant gas, moreover, damage the environment and can alter the properties of the nebulized, as well as the electrothermal diffusion where the product is directly vaporized.

Are these systems eco-friendly?

The machines ensure a low consumption and a further energy savings. Thanks to our integrated systems, the air conditioners work in a condition of lower energy consumption for the best quality of the air already treated with our nebulizer. The purification filters, indeed, are obstructed by a minor quantity of contaminants, they are less exploited and do not constitute any place of nesting of mites, bacteria, etc...

Why nebulisation?

The air we breathe is polluted, and the bad odour often indicates that the environment which surrounds us is unhealthy. In order to reduce odour pollution tiny particles of active liquids can be spread in the air with the aim of sanitizing, reducing odors, or simply perfuming the environment, but also repelling insects and animals.

What does the environmental sanitation involve?

In recent years it has been a continuous deterioration of Indoor Air Quality (IAQ) due to the airborne substances' increase. Furthermore, the reduced exchange of air in indoor spaces and the use of air conditioning systems, along with their poor design and/or the non-maintenance of the filters, worsen the situation further, increasing the risk of biological contamination. Consequently, it is necessary to carry out the clean up in order to ensure an air quality in line with the regulations or, however, healthy. The process



of sanitation is an operation that allows to reduce bacterial loads and/or to inactivate viruses, the eliminating the risk of microbial infections.

Cleaning and sanitation are the same thing?

No, they are not. The cleaning consists only in the dirt removal without effective reduction of pathogenic microorganisms.

What are the advantages of these sanitation systems?

The Air sanitizing systems make use of innovative methods of spraying, atomizing or brumization of the sanitizing product whom is spread without altering its chemical and physical properties. It is possible to treat even large volumes of air efficiently. The treatment is safe for users and does not require experienced staff to manage the system. The systems can be well integrated into the existing premises without altering their previous structure.

What other advantages does the Air Sanitation System offer?

As for the air conditioning systems , the release of the sanitizing liquid can be performed within the delivery conduit . As a consequence, the whole conduit will be sanitized throughout the treatment period as well as the UTA that serves it and there will be, consequently, a time dilation of the mechanical cleaning of the plant. Moreover, expert personnel is not required for the whole system management

What are the benefits of a sanitized work environment ?

Especially in winter, when the pandemic influenza infections are widespread among workers, this may cause negative effects on the company as a whole. Workers who can carry out their work in a healthy environment, that is to say not only clean but also disinfected, can minimize the risk of contagion among them with the consequent decrease in absenteeism due to causes related to flu symptoms . In Italy, only as for pandemic influenza A, during the peak of the pandemic there has been a 12% NON- infected workers who have voluntarily chosen to stay at home.

With our product, on the contrary, we aim to avoid production losses for the company due to job absenteeism and probable reduction of health spending.

What is meant by smell reduction?

Odour abatement essentially means the destruction of the molecules that generate bad odours, or, more precisely, their own transformation by activating a mechanism of natural degradation . The active compounds, spread into the air through spraying, atomizing or brumization, capture malodorous molecules (collection of molecules) and react with them in order to create more complex and heavier molecules (mineralization) . The result is, therefore, the transformation of malodorous compounds in inert salts, that are stable and safe for humans, and the recovery of environmental integrity ,

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What smells and substances can they break down ?

Substances such as **hydrogen sulfide (H₂S, ammonia (NH₃, butyric acid, TMA and butyraldehyde, dangerous to human beings**, are largely responsible for the bad smell that is generated from the sewers , treatment plants , from the docks , from sites industrial, etc. .. These Air systems are patented and allow the elimination of these substances through a intermittently dispensing controlled and a mixing of the active products according to the specific needs .

In what kind of environments can I reduce odours ?

Using these Air nebulization, atomization and brumization systems is possible to treat both indoors of different volumes such as buildings, dryers, purifiers , industrial areas , etc. , both large open spaces such as composting sites, CET, basins, etc. .. The minimally invasive feature of the plants allows an easy installation too.

How can I know if the odour abatement system really works in my particular case ?

If you need the Air services for odour removal and you want to be sure that the operation will work effectively, simply contact us for a free inspection of our technicians who will assess the case and propose a solution . The proposed solution, if accepted, will be subject to a trial period in order to ensure effectiveness.

Can I use the odour abatement system as an alternative or complementary to the biofilter ?

The active products' nebulization for odour removal is an proven alternative to the installation of biofilters and to traditional methods of deodorization (scrubbers, biofilters ,activated carbon). This choice, besides having low installation costs, allows to reduce electricity and water consumption. Moreover, it is possible to complete the effectiveness of the traditional systems

My case is already being faced by these systems?

The producer has already faced and solved problems of olfactory pollution and sewage treatment plants of industrial sites. In the website on line, it is possible to visit the gallery of works carried out until now.

How can you repel insects and animals?

It is possible to repel insects and animals by spreading in the air specific products. These Air systems allow an automatic and intermittently controlled dispensing of natural products, which may occur through nebulization, atomization or brumization. An area not pleasing to the species to be hit is therefore created, without using insecticides and/or other toxic products.



Where can I install these Air Systems for the insects and animals' repulsion?

The eclectic and minimally invasive features of the plants allows their use in different situations, both indoors (offices, waiting rooms, warehouses, etc..) And outdoor (swimming pools, parks, monuments, etc.)

Why perfuming?

Recent studies have shown how the fragrance of an environment can affect man behaviour in a significant way . The smell is as rapid as an electric shock and, recent international laboratory analysis and their related statistics, have shown that, among the five human senses, smell is now more important than the hearing. The new ranking is: sight, smell, hearing, taste and touch. This is because a smell goes straight to the brain without intermediaries. People seem to remember the smells more than pictures.

What other advantages does the enviromental perfuming offer (olfactory brand ?

Any environment, if scented, is more pleasing. The Air perfuming systems can be placed in any area you want to treat, from hotels' receptions, waiting rooms, corridors , toilets (along with a odours' destruction treatment), relaxation rooms, TV rooms and other public places but also private ones such as our own homes. When we talk about scenting we should not only think of hotels and SPA . As a matter of fact, we have also dealt with supermarkets, where the emission of essences closely linked to specific products have led to an increase in sales of 170% of cheeses, 340 % of smoked products, 91 % of coke and 100% of pesto sauces. Other examples are the fragrance of casinos and gambling halls, where the bets are increased by 48 %, shopping centres, where the permanence of the customer is increased by 15% and consequently the probability of purchase is raised too, and even in the estate agents, there has been an increase in the prices of signing of the contract by about 5 % of homes and areas related to specific fragrances.

Why should we use these Air systems to perfume ?

The automatic Air perfuming systems are different because they make use of the Venturi System in order to atomize and, therefore, reduce the substances in very small drops and without altering the fragrances. This means that a nebulized substance, almost gaseous, will be created, such as not to wet the surfaces with whom it comes in contact and that allows the effective diffusion in large environments, even with small amounts of product. With our patented technology, in addition, the fragrances last longer than other systems on the market. The traditional products' fragrances, in order to be released into the atmosphere, are necessary heated using gas or propellants, as a consequence, fragrances lose all their physiological characteristics within 48 hours. With these Air System, on the contrary, a bottle of fragrance can last from five to six months, leaving its characteristics unchanged .

Can I break down odours and perfuming the environment at the same time ?

Yes, you can. These Air Systems allow us to reduce odours and scenting the environment at the same time.



What is aromatherapy?

The term aromatherapy means the therapeutic use of essential oils derived from the vegetable world. The essences are extracted, according to the different cases, from the different parts of plants using three main methods: steam distillation, squeeze and extraction using solvents.

Aromatherapy belongs to the alternative medicine branch and it is applied in various fields: medical, aesthetic, cosmetic and perfuming .

Aromatherapy is deeply related to our lifestyle and the evocation of the past rich in aromas, helps us to slow down the stress of modern life and to appreciate more our own existence. Thanks to it and through the perception of smells, emotions , memory, sensitivity and all areas related cognitive, are involved, as well as the endocrine and immune defence systems.

What are the essential oils?

Essential oils are aromatic substances that can be found in different parts of plants (flowers, peel, fruits, roots and leaves) and in different quantities, in the form of tiny oily droplets .

From a chemical point of view, the essential oils consist of more than 200 different substances, especially alcohols, esters, phenols , terpenes , aldehydes and ketones, which are connected between them in precise combinations. The physical - chemical properties of the essential oils are manifold: they are extremely volatile and have a particular smell called aroma . From a scientific point of view, the properties related to the essential oils are mainly antiseptic, antiviral and anti- infective action, but, according to the plant from whom they are extracted, we also find a balsamic and expectorant action, or relaxing , or even challenging or nourishing and smoothing the skin and others. The influence of essential oils on the psychic functions should be remembered too.