DEPURATION IMPLANTS COVERING

Nowadays is consolidated the new water depuration implant project with tub covering system.
The target of this new implant is to lower the bad environment impacts and avoid that bad smell substances could contaminate the surrounding areas.
The implant respects all security rules, all possible charging, wind and snow at a minimum cost.

During years have been indicated two technologies that can satisfy these points:

- Fiber-glass covering
- Aluminium covering

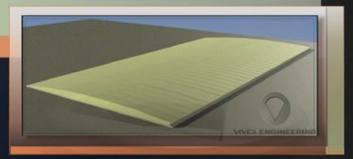
GENERAL FEATURES:

1-Fiber-glass covering
They are made with thermic polyesters resins and armed with special glass fibres of high chemical and mechanical resistance.
They are normally dome shaped and can cover various kind of tub.

GRP (Glass Reinforced Polyester) versatility is to solve cover problem, designing for each project, own printing lamination.
GRP are self carrying also with wide lights and its chemical composition and its structure ensures it the very long lasting.
Their production includes the use of isoftalic resins, reinforced with "C" glass and protect with gel-coat UV resistant.

2-Aluminium covering:
High chemical resistance alloys and special production techniques in the last years offered a good solution to the difficult covers of depuration implant both industrial and civil.
The good project and an accurate and fine transformation in the workshop allow to produce wide and difficult surface of , with economic solutions.

Both solutions, in the single covering elements, can be also external dissembled only unscrewing the parts of it. All covers have an appropriate shape to ensure the falling of meteoric waters and for a correct balance in loads distribution. All covers are according with the relative rules.



DRY DE-SULPHURATERS
H2S removal

Natural gas and biological gas developed in the anaerobic DIGESTORI and in every air flow contained sulphur, under the form of H2s acid, that needs a remove and a reduction of the same, can be putted under a dry or Hum de-sulphurate process.

The choice between the two process must be taken considering the H2S contains, the nature and percentage of other components, the needed grade reduction, the total airflow entrance, an not for last, the implant cost.

Dry de-sulphured implants are based on "Laming mass" concept, better, on the ability of some substances, normally in the solid form, to react chemically with the H2S making sulphur salts that remain closed in the mass and so taking themselves off of the air current.
This process is sufficiently selective.
De-sulphured masses can be regenerable or irreversible .
The irreversible are those that origin salts in normal environment conditions, and as soon the de- sulphurate ability ends, they can be replaced with a new mass.
The regenerable are those that origin reversible salts in normal environment conditions and so regenerable in the implant, theoretically almost indefinite, but in the practise for many times due to a loss of the mass during regenerations, to a porosity loss and other.
Our dry de-sulphurated implants use as de-sulphured mass a mixture produced by our technicians,
Labelled VE 30, that uses steel salts and it is regenerable in normal environment conditions.
Typical applications:
-Natural gas
-Biogas
-Chemical Industries
-Waste treatment implants
-Water depuration implants

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PLASMA AIR
Covering
Deodorizer implants
Humidifiers
Depurators
activated carbon
Biofilters
Cyclon

COMPACT SB IMPLANTS
Hum Desulphurators
Acid-alkaline Depurators
Dry De-Powderizer
Hum De-Powderizer
Dry Desulphurators
MCAC (Modular City Air Cleaner)

Deodorizer

Implants of Deodorizer and exhaust air purifying.
RSU COMPOST Implants, and all Purifying water implants and generally all implants that works with organic substance, left out exhaust air that can origins bad smells, especially when there are modification of the organic quality.
Many implants are located in the urban place, so the exhalation can disturb people.

The best idea should be locate the implants in the underground and with an accurate checking of the climate, but this is not so easy, especially for those already located implants.

The best solution in this case is to contain in special structures including aspiration implants or close the implants with special material and direct the exhaust air in apposite implants that have the ability to clear the air from those bad smell substances (ex.: mercaptans, sulfurs, etc.) both in suspension and solution, together with the other substance as dust.

We have two kind of Deodorizers:
-Mono-stadium
-Double-Stadium
-Triple-Stadium
Both implants are small and have a very low energy cost, but especially they aren't made of with expensive material.



Biological Deodorizing implants of exhaust air

RSU Compost (Organic Fraction of the Urban
Solid Refusals) implants, and all purifying water implants and generally all implants that work with organic substances, left run out exhaust air that can origins bad smells, especially when there are modification of the organic quality and/or mass flow.
Many implants are located in the urban place, so the exhalations fumes can disturbs people.

The best idea should be locate the implants in the underground and with an accurate checking of the micro-climate, but this is not so easy, especially for the already located implants.

The best solution in this case is to border the implants in special structures including suction implants, or border the implants with special material and direct the run out air in apposite implants that have the ability to clear the air from those bad smell substances (ex.: mercaptans, sulfurs, etc.)


We have three kind of modular bio-filters
- with PEAT mass
- with CALCAREOUS mass
- with CIPPUS mass
The mass is pre-inoculate of special bacterial stocks adapt for the target.
The used bacterial stocks are all innocuous for human and for the environment.
To have higher quantity of air than the normally entered is possible to connect more modules in parallel.
All Bio-filters are easy to be used and have a very low energy power use, especially without the use of expensive materials and without any peculiar servicing.

-MCAC- Introduction

The air in the city is full of thin particulate matter that are rust residues, asphalt residues, car residues, various powders, crumble of cement , rocks and others,

In industry areas there are more than 10 million particle per cm^3, against the 100 particle per cm^3 measured in the Antarctic.
The contamination in the city especially thin powders are the main cause recognized of people allergic disease. Other connected wealth disease are: Asthma , redness of eyes; breathing problems and other.

CE community checked deaths caused by contamination in the city:
They are 100.000 per year and only in the community territory. What is the social price for these deaths?
Against this we know that in the same territory per year there are 40.000 deaths caused by car accidents.

Social helps that community town authorities offers to reduce the contamination in the city, as the car city stop, do not change the bad situation and have a social cost that is not easily defined.

-Every one of us have seen a gray cloud up on the sky of the city, as a big mantle.

-Everybody knows that only the rain can clear the air, but as the dust rain water remains on the asphalt of the street the benefit will be only for a short time.The water will dry and the wind will raise again the powder.
-And everybody knows that the wind do not clear the air but can join the cleaned air with the contaminated one.

Only a liter of water can clear three-hundred-million liter of air
As it always be nature has its solutions.
And when men have the chance to knows them have to use them.

Our implants are modulating so they can approach a power from 25.000 m^3 /h to 1.000.000 of m^3 /h.

PLASMA-AIR IMPLANTS:

Our PLASMA AIR implants born to solve air treatment problems both indoor and outdoor.
A lot of industrial activities are located inside structures and so the internal climate is modified by the own processes and many times even by the effect of the motor vehicle waste during activities.
In the indoor environment there are contamination sources as follows:
1. **Particulate matter**
2. **carbon monoxide**
3. **Various hydrocarbon**
4. **NOx**

Mechanic ventilation implants inside of the structure not always can solve the problem specially when the environment have heated/conditioned air, since the quantity of power to make necessary air exchanges could be bigger.
PLASMA AIR Technology can solve a lot of problems and can save a lot of energy, since the air treated inside of our modules can be left totally or partially in the environment it comes from .

PLASMA AIR implants are totally prefabricated. Can be located inside the structures of industries, with a continuous suction of the air through a grill located on the equipment or through a canalization. The air will be left out after an accurate depuration always through a grill, a canalization or emission gates.

Our Plasma air Implants are essentially composed by the following parts:
-Suction grill/ suction flange
- Electro-centrifugal fan to high-performance and low noisiness
-Cold Positive Plasma Generator
- cold plasma diffusion grill in the sucked flow air
-Filters with scrubber semi- filling and bedew system, or high efficiency pocket filters.
- Cold negative Plasma Producer
-Negative Plasma Generator
- cold plasma diffusion grill in the re-immission flow air
-immission grill/ immission flange
-Electrical panel with micro PLC


COMPACT SB IMPLANTS

Our compact SB implants are engineered to ensure the maximum smells erasing and at the same time the best mechanical resistance to chemical aggressions.
They are also studied to maintain bacterial flora in the best climate working conditions, avoiding both the overheat for the sun that can pasteurize the flora and the relative stopped of the process and both the freezing in very cold climates that can slow the bacterial activity .

Normally are composed by:
1-First level scrubber section
2-Special biological mass of Second Level Bio-filter section, not dangerous both for environment and humans.
3-high-performance Electro-centrifugal aspirator made of inox steel.
4-Negative ionization section
5-Deodorized and depurated Chimney fume
6-Automatic electrical panel with PLC optional.
7-Hydraulic and electrical circuit .

Normally it's designed with internal walls in contact with the inox steel fume tube thermically isolated with the strongest inox steel.
The support grill is completely made of inox steel.
The base of the reactor is tub shaped to let the drainage of excess liquids and the convey of it in the depurator implant.
To have a better entrance to the reactor it is designed with totally opened doors where it is needed.

To avoid the out of bad smells, all the implant works with the electrical suction on the top.
The Hydraulic panel is composed by s line of tubes and valves, automatic electrical valve, manometer and humydostat optional.

The drainage liquid when is present goes back to the water depuration implant for the finishing.

Compact implants are easy in the function and especially do not require the dosage of chemical reactors. Electrical equipments are very few compared to the triple-stadium scrubber implants, that guarantees a long lasting with less care.


Tube fume acid-alkaline depurators

Cleaning fume towers, so called, are based on physical and chemical principles very useful and used in chemical implants from their beginning.
Practically when a fume tube contained various substances is putted in contact with water, will be osmotic nature exchange , due to the different concentration inside of the fume tube and in the water, followed by a water solution of the hydro soluble substances . If relative temperature overcome meaningful differential they realize thermo hydraulic exchanges.
So a washing tour is largely used in fume tube depuration and in the salvage of useful composites.
To have the maximum efficiency of the process is important that there will be a wide contact between fume tube and water and necessary time of contact.

In our towers we guarantee the following parameters:
-Exchange material made of PVC or PP with a specific border higher than 230 m2/m3
-Crossing speed less than 2m/sec
-Mass ratio circulation Water/air higher than 2 sec.
-Contact time higher than 2 sec.
-Reliable Cycles checking, especially to guarantee the maximum efficiency at the moment of starting and ending of the implant equipment. –
-Untouchable from base or acids.

De-Powderizer
A lot of production activity can origins fumes with a contents of powders that in any case must be purified before left them out in the air. In this case the powdered fume tube can be putted under a dry or Humid de-powdering process.
The choice between one of the process must be taken considering the starting quantity of powders, the nature, the granule-metres composition, the needed reduction grade, the total quantity at the beginning and the implant cost.

Our de-powderizers are based on physical and mechanical processes and are normally composed by an integrated single stadium, that includes all working areas.
Typical applications:
-Pharmaceutical industries
-Textile industries
-Mineral Industries
-Chemical Industries
-Electrical industries
-Cement Manufacturers
-Plastic Industries
-Glass Industries
-Wooden Industries
-Refusal treatment implants
-Cement mixing station
-Mill and pasta factories.