VELAS LARGAS
HEALTH CARE EQUIPAMENT

# *Integrated Solutions to Improve Air Quality, even with Repulsive Functions of Animals and Insects*

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# 1 Characteristics and Applications

## 1.1 What you can do with our systems

- Scenting the environment through natural fragrances for aromatherapy or simply to provoke well-being sensations
- Odour Reduction, it demolishes a great number of olfactive contaminations such as those caused by sewage, kitchen hoods, livestock farming, leachate, waste etc..
- Cleaning the environment, even in human presence, with a natural sanitizer.
- Repelling of rats and insects, by using products with natural repellent action, which have not any side effects on humans and animals that have turned away.

## 1.2 The combined action

For any kind of treatment described above it is possible to carry out a combined action such as: air cleaning and environment scenting, or scenting the atmosphere and carrying out an insects repulsive action or again, reducing the odours and scenting the atmosphere.
Using a specialized control unit, you can use up to seven products simultaneously. Finally, according to the application used, you can obtain products containing both characteristics that have been looked for or you can use two different products.

## 1.3 Exclusive Registered Technology

For any kind of treatment mentioned above, an innovative technology of nebulization is used, according to which the product is converted into very small particles (10-6 m particles size). The Venturi System is at the basis of the working system. This System, as it is generally known, utilizes compressed air: the effect created is that of a very light mist which comes out of the nebulization's chamber.

Thanks to this very light airform consistency, the particles are easily transported by the air currents in the environment, whether be natural (eg. convective currents) or forced (eg. in UTA).

The nebulization system is a registered trade mark and the exclusive use of it belongs to the producer.

## 1.4 At the core of our systems.

### 1.4.1 The series

All our systems are directed by control units planned to face all the system's requirements: to present days, the series available is the following: MT200, MT300, PR400, and MT420.



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### 1.4.2 The controller

All machines have a **PLC controller**, easily programmable, that allows you to manage the diffusion product contained in the bottle, both in terms of intensity dispersion (managing the time of running and stopping) and in terms of operating period (during the day, during the week and so on)

### 1.4.3 Remote Control

The machines may be equipped with a remote control system, via a LAN connection, and using mobile telephone support systems.

### 1.4.4 Nebulization System

The nebulization process takes place inside 500 ml bottles or through 12 L conteiners called touque buse. For the first typology all machines can be used while the touque buse only using the MT420 since it needs a considerable air flow.

## 2 Systems and Plants

### 2.1 MT 200

- It allows to treat 200 m environments
- It nebulizes (spray) the product inside the control unit with a 500 ml bottle to contain and to spray the product.
- There are two different ways to spray the product in the environment: immediately outside the central unit structure or using a specific air conduits of max. 2m. long. Such a tube may be put in air ventilation conduit too.
- If the diffusion takes place through conduit extension (see above) you can also use embellishment nozzles

**Electric Characteristics**

- Power: 20 W
- Voltage mains supply: 230 V

**Mechanic Characteristics**

- Height (H) 22.3 cm
- Depth (D): 12 cm
- Length (L) 18 cm
- Weight: 3.5 kg
- Material: stainless steel or steel
- IP: 20

**2.2 MT300**

- It allows you to treat 300 m 2 environments
- It sprays N. 2 products simultaneously inside the control unit and it utilizes N.2 of 500 ml bottles, one of them for each product.
- The sprayed product can be released in the environment in two different ways: immediately outside the structure of the central unit or by using a specific conduit of max. 2 m. length. Such a tube may also be put in air ventilation conduits.
- If the diffusion takes place through conduit extension (see above) you can also use embellishment nozzles

**Electric Characteristics**

- Power: 20 W
- Voltage mains supply: 230 V

**Mechanic Characteristics**

- Height (H): 28 cm
- Depth (D): 11 cm
- Length (L): 32 cm
- Weight: 3.6 kg
- Material: stainless steel or steel
- IP: 20

**2.3 PR 400**

- It allows you to treat 400 m2 environments
- It nebulizes N 1 and / or N 2 products, inside the metalllic structure and using 500 ml bottles in order to contain and spray the products.
- The nebulized product is spread in the environment from the top of a column where fan is placed. This fan ensures a good diffusion of the product in the environment all around.
- The metallic structure can be serigraphied with images, logos etc.., it can be used as a object-holder column and/or it can have an lighting function since a led system can be put in it.



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**Electric Characteristics:**

- Power: 20 W
- Voltage mains supply: 230 v

**Mechanic Characteristics:**

- Height (H): 93 cm
- Depth (D): 22 cm
- Length (L): 22 cm
- Weight: 13 kg
- Material: Steel
- IP: 20

**2.4 MT 420**

- It allows you to treat 400 m environments

- It nebulizes from N.1 to N.7 products, generally using 500 ml bottles in order to contain and spray the products. If there air ventilated conduits (each MT 420 can be utilized in ducts from 2500 to 5000 mc/h) using separate 12 L.containers called "touque buse"

**Electric Characteristics**

- Power: 20 W
- Voltage mains supply: 230 V

**Features**

- Height (H): 25 cm
- Depth (D): 14 cm
- Length (L): 15 cm
- Weight: 4 kg
- Material: Stainless steel or steel
- IP: 20

**2.5 500 ml Bottles and Pneumatic plants**

**Fig. 1** shows the nebulizing bottle, specifying the size and the two possible types of support to be used inside the premises. As for the technical room the type described in **Fig. 1-c** is being used, while for the visible areas the typology in **Fig. 1-b** can be used since it has got the possibility of containing a LED spotlight in the lower part.

In case of MT420 plants, the pipes which connect the machine to the bottles are from 6x4mm, consequently they can be ducted through PVC small conduits, existing corrugated, gypsum collars etc... and/or pass inside plasterboard walls (Fig. 2), cavities and so on.

**Fig 1 View and overall dimensions of: a) bottle b) visible bottle-holder ; c) bottle-holder for SFP80 technical area.**

**Fig 2 Example of visible bottle-holder use, and with machine: a)located above the false ceiling level and locked on a rigid structure; b) located on the wall in a visible way with visible external canalization.**

**2.6 Touque Buse: 12 l container for plants**

The tuoque buse is a stainless steel container (fig. 3) with a 12 liters capacity and of 305 mm x 300 mm dimensions situated, whenever possible, in a lower point compared to the delivery point. It is used to nebulize the product through the ducts with capacities from 2500 to 5000 mc/h, and it is controlled by a Mt420 machine. It is however possible to reinforce the system for a conduit treatment with capacities higher than 5000 m / h.

**2.7 Machine characteristics' summary**

**…….**

**2.8 Information about the machine installation**

**……**

**2.9 An example of Application**

**MT 420 in ventilation conduits: Insert the nebulized product into the sewage discharge.**

Nebulization plant: 1) point "P" of Fig. 1 and 2) parts of the nebulization system. The following parts are displayed: A, programmable system of compressed air power supply; B, the system for the accumulation of active product nebulization and / or fragrance. There are types of remote control commands via the LAN cable and the one that uses mobile telephone support systems

**2.10 Additional features of MT200**

With a fan in order to reach a better dispersing of the nebulization (see fig.)
MT200-fan, a) external view, b) ex. side wall assembly

**2.11 Maintenance**

All maintenance operations should be carried out exclusively by the producer Customer Care Service and by qualified staff.

In order to obtain the best performance from the nebulizer and to ensure maximum duration to all its parts, it should be guaranteed that the use and maintenance regulations are strictly followed by the system operators. It is therefore recommended to read carefully these notes and to examine the handbook every time there is the need for a suggestion in order to remove any possible inconvenience. This equipment, having been designed and realized following the most advanced criteria and technologies, requires only minimum precautionary and ordinary maintenance which are considerably restrained.

For further information, please contact our Customer Care Service.

**General rules**

- a scrupulous cleanliness is recommend in order to preserve the nebulizer as long as possible;
- Before performing any maintenance operation, testing and / or control of the nebulizer, turn off the compressor and remove the mains plug;
- During disassembly and re-assembly of the nebulizer, use always keys and suitable equipments in order to prevent the deterioration of the specified components;
- To unlock firmly sticked parts, use copper or plastic hammers.

**Maintenance**

- After the first 5 hours of the nebulizer working, make sure that all the "clutches" of the tubes are in the proper position and are not "pulled out".
- Regularly check that all the "clutches" of the tubes are in the proper position and are not "pulled out".
- Every 3,000 hours of working check that the compressor membrane filter is clean (eg. if the system works for 8 hours a day the intervention should be done after a "year").
- Replace the small filter in the membrane compressor only if it is damaged during maintenance.
- Periodically check that the nebulization system pipes from 10 mm are clean, otherwise clean using compressed air by putting it to the starting end of the bottle supplier.
- Clean the nebulizer with a wet cloth at least every two months, in order to remove residual nublizised substances, which might have a corrosive effect on paint, metal frame and each nebulizer's support;
- Control the presence of the liquid inside the bottle, as for the replacement, follow the instructions provided below.

**Small bottles/ refills substitutions**

Open the nebulizer, remove the two pipes from the cap (both the 4 mm one and 10 mm one), re-enter the new bottle / refill, re-connect the pipes and then switch on the nebulizer by inserting the electric power supply; this action depends greatly on the programming and use of the machine, usually the bottle exchange occurs after few months (3-4 months)

**Planned maintenance actions**
It is possible to consider the scheduled maintenance option, which has got the aim to keep your nebulizer in perfect conditions. First of all, our registered operator carries out the controls and checking according to the maintenance plan, then these checks are certified by putting the stamp, the signature, the inspection date and the working hours on a specific form. Thanks to these coupons you will easily know when you should ask for our care network service.

**Extraordinary (maintenance) actions**
They include all repair operations and / or substitution of mechanical parts of one or more components of the nebulizer which normally are required only after years of working. In case of significant changes, the manufacturer may not be considered responsible for any possible future dangers.

*These actions must be carried out by the care service centres.*

**3 Plant systems' characteristics: a brief summary**
**3.1 Brief technique description of the systems**
Integrated solutions to improve air quality even with the aim of repelling insects, rats and pigeons. Nebulization technology which uses the "Venturi System" according to which the nebulized (sprayed) substances are widely spread throughout the environment or through air ventilation conduits. The sequence of programmable control units is the following: MT200, MT300, MT420 and PR400. The diffusion may be done using more products simultaneously, all of the MT machines can be put in air ventilation conduits, in the case of delivery ranging from 2500 and 5000 $m^3$ / h the MT420 is used with a single 12L Touque buse "

**3.2 Text about plants technical description**
Integrated solutions for air quality: odour removal, conduits and environment sanitation and environment scenting. Other applications are: insects, rats and pigeons' removal.
Using the nebulization technology with "Venturi System" (an exclusive), the nebulized substance is widely spread throughout the environment or through the air conduits.
The series of plants' leading control units is the following: MT200, MT300, PR400 and MT420. All the MT machines include wall installation while the PR has a small column shape column and is simply placed on the ground. All machines have got a micro-PLC for the delivery time programming (the intensity of the operation is indicated in seconds and the working period is displayed in hours, days, weeks, and months) and they pneumatically feed the "bottles" located or inside the central unit itself (MT200, MT300 and PR400) or max 6m by the ECU (6x4 mm tube MT420). The bottles (500 ml 80mm alt. 150 mm) which contain the product and operate as nebulization room , are blocked on the wall with "SFP 80" pillars. The sprayed part, can be spread throughout the environment or be put into conduits (10x8mm tube max 2m long) until the point indicated for the delivery (e.g. conduit or wall). The bottle-holder like the delivery point can be equipped with special shell-live adornment.
Using the MT300 and PR400 machines the delivery can be done with two products simultaneously, the MT420 up to 7 bottles/products (most environments or more treatments). All the MT can be used for the air conduits, in the case of delivery ranging from 2500 and 5000 $m^3$ / h the MT420 is used with a single


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"Touque buse"; the latter, has got a volume of fluid containing 12 l (350mm height 400mm) are placed on the ground and the nebulized part must be put into tubes (tube 40 mm H max 3 m) to be input into the air conduit.

**4. Fragrance: a brief summary**

**4.1 A brief description of fragrance**

Recent studies have shown how the emotional factor is a key factor in the choice of buying something. Consumer's choices are made on the basis of subjective sensations *without rationality*; when the fragrance is impressed in our memory it helps us to identify the kind of facility to be dealt with thus attracting customers. The plants may consist in a single machine with a single delivery point or a single machine with various delivery points located inside the premises to be treated.

**4.2 Detailed fragrance description**

Over the past few years, among the trends that seem to characterize, in a more significant way, the consumers' behaviour, the term "multisensuality" assumes a particular meaning, that is to say, the search for a "global involvement of all the senses in a consumption experience." The perceptions of the olfactory sensations and their association with past situations and events, are characterized by the fact that they mostly occur on a unconscious level, when, on the contrary, the perception linked to other senses, such as the sight and the hearing, involves processes of analysis and of a more rational and "obvious" understanding. A fragrance input can cause different types of reactions (pleasure, disgust, excitement, boredom or rejection) but our brain could be not aware about this. As a consequence, an odour is always full of emotion and it easily recalls our memory past experiences. The activity of matching a fragrance with a product or service, is a way to give a true identity to it.

The producer holds a patent which has the advantage to emphasize the above described characteristics of the sprayed fragrances and, thanks to a tested technology, it allows the delivery of the fragrances themselves in a simpler and minimally invasive way. The delivery can be done either through an air conduit or directly in the environment, using programmable automatic machines which are even easy to manage. The systems may consist in a single machine with a single delivery point or in a single machine with multiple delivery points located inside the premises to be treated

**4.3 Aromatherapy**

Aromatherapy can be defined as the treatment or the prevention of slight disorders thorough the use of essential oils. The essential oils are complex mixtures of volatile and odorous substances, which come from several plants. Thanks to their application, a series of salutary effects are obtained: antibiotics, gyrostatic, bactericides, fungicides, beneficial effects on the nervous system, anesthetics, antispasmodics, balsamic effects, repellents and many more.

Between the methods of applications in aromatherapy, there is the air diffusion, its aim is the treatment of the environment in order to purify it and/ or aromatize it.

**5 Odour reduction: a brief summary**

**5.1 Short description of odour reduction (neutralizing odours).**

One of the reason of outdoor and indoor low air quality, is the bad odour, whose cause is to be found in industrial environments (eg. landfill sites, composting, breeding farms, industrial sites, food industries in general, etc), both in public places and in domestic places (such as in the bathrooms and in the kitchens).

The possible negative effects associated with "olfactive nuisance" are: upset stomach, headaches, sleep disturbance, loss of appetite. You can have these effects even when a residual odour is present at the low concentrations, usually very lower than those capable of causing damages to health or environmental effects.

The producer has got the exclusive in Italy for the product which is able to reduce polluting substances, such as: ammonia, Trimenthylamine, hydrogen sulphide, and Methyl butyric acid and other molecules. The Overlab is true odors' destroyer since it does not cover the odours. It is delivered through tested technologies developed both for indoor (eg. paper mills, storage warehouses of organic material, farms etc...) and also for outdoor (eg. landfills, purifiers etc.)

**6 Insects' removal: a brief summary**

**6.1 A brief description of insects' removal**

Mosquitos' bites represent not only a kind of annoyance; they can sometimes cause allergic reactions, toxic shock, apart from being transmission vectors of many diseases. In all cases, be sure that your home is free from the insects is a true relief and a guarantee for all those companies that produce food. For this reason, the producer has developed a line of products specialized in insects' removal. Liquid compounds which can be sprayed throughout large and smaller volumes, able to keep away flies, mosquitoes and parasites. The nebulization system of liquid compounds used by us, multiplies by 60,000 the exchange between the product and the air, allowing you to act effectively on all insects.

Our products carry out an efficient removal action, by making the mosquitoes harmless and inactive. All ingredients are of vegetable origin and they do not contain toxic synthetic substances.

The natural product/spray nozzle combination, guarantees an excellent result both indoor and outdoor.

The producer holds a patent which has the advantage to emphasize the above described characteristics of the sprayed fragrances and, thanks to a tested technology, it allows the delivery of the fragrances themselves in a simpler and minimally invasive way. The delivery can be done either through an air conduit or directly in the environment, using programmable automatic machines which are even easy to manage. The systems may consist in a single machine with a single delivery point or in a single machine with multiple delivery points located inside the premises to be treated or outside such as swimming pools.

**7 Sanitizing: brief summary**

**7.1 Short description of sanitizing**

The "sanitation" (a purifying cleaning) of indoor environment exploits the antimicrobial properties of natural products, and in particular of Melaleuca alternifolia (particularly efficient against the bacteria responsible for the Legionella)

**7.2 Detailed description about "Sanitation"**

With the process of "sanitation" several bacteria and viruses can be destroyed and consequently become inactive, in order to eliminate the risk of infection by microbial infections. The microbes in the air may settle on various objects such as air filters and multiply themselves. The phenomenon can cause various problems, from a human health point of view, which go from the induction of allergic phenomenons to the diffusion of potentially harmful microorganisms.

The producer takes advantage of the antimicrobial properties of natural products and in particular of Melaleuca alternifolia. The combination of this substance to a system that allows his nebulization without changing or alternating its own therapeutic microbial and bactericide properties, represents an innovative and efficient way for sanitizing environments with human presence.
The essential oil the Melaleuca alternifolia Cheel or tea tree oil (TTO) has long been studied by the ISS for its wide range of antimicrobial action and for its own potential therapeutic activities, in particular the use of terpinen-4-ol as an antimicrobial agent against L. pneumophila, for the sanitization of air treatment systems and water distribution.

All in all, all of the structural typologies may be sanitized by terpinen-4-olo.