



**ISCLEANAIR**

BREATHE YOUR LIFE

## APA – AIR POLLUTION ABATEMENT

APA is a solution designed for the abatement of the ambient air pollutants everywhere, to disrupt the previous wrong approach based only on applications at the source of emissions rather than focusing also on receptors (people and communities).

Thanks to integrated chemical, physical and mechanical processes, **APA abates effectively the widest range of pollutants present and/or released into the atmosphere**, such as particulate matter (PM), ozone, heavy metals, polycyclic aromatic hydrocarbons (PAH), light hydrocarbons (methane, benzene, LPG, etc.), nitrogen and sulphur oxides ( $\text{NO}_x$ ,  $\text{SO}_x$ ), Volatile Organic Compounds (VOC), alcohol and acetylene, in addition to different types of micro-organisms.

APA is a “filter-less” and water-based new solution, working distributed at ground level and standing out for its versatility, easy installation and maintenance, low running costs and effective energy and economic savings. Another important feature is the capacity of being integrated in a simple and flexible way with other technologies to enable multidisciplinary, advanced and innovative services in the space of applications. Furthermore, APA does not generate any waste, not requiring special treatment and allows to perform in real time, in situ or remotely, the data monitoring and the environmental parameters management.

■ The performances and the demonstrated results achieved so far concerning the improvement of the ambient air quality, make APA a “Best Available Technology” (under EU IPPC Directive 2008/1/EC), which is a solution that guarantees the highest level of environmental protection, enabling safer and healthier places for workers’ and citizens’ lives.

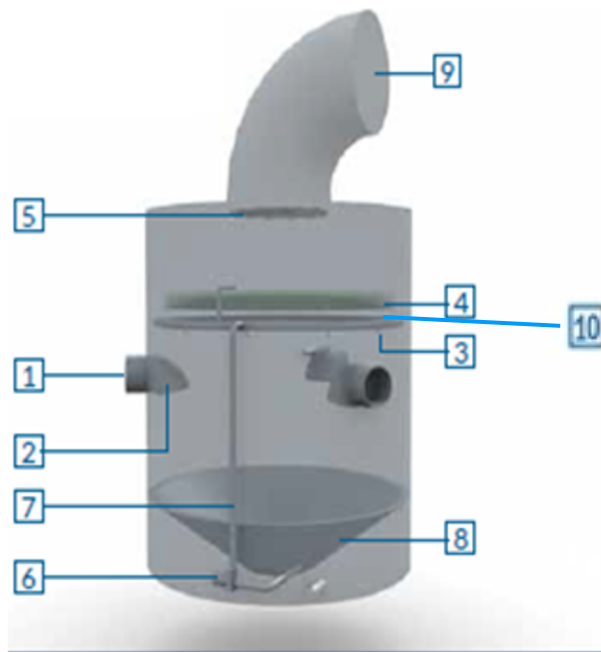
### APA operation

The air enters from an intake system (positioned at about 80 cm - 1 m from the surface) and is filtered inside the machine following a process which reproduces the rain’s natural cycle. Some drops of a water-based solution come into contact with the air, catch the pollutants and deposit them into the water tank. At the end of the washing process, the purified air is drawn and released into the surrounding environment.

**A BEST AVAILABLE TECHNOLOGY CERTIFIED, SPECIFICALLY DESIGNED FOR THE ABATEMENT OF AIR POLLUTANTS IN PEOPLE’S LIVING AND WORKING SPHERES**



Two APA devices in the departures area of the International Airport of Ciampino (Rome).



## Legend

- 1** Polluted air entrance
- 2** Venturi scrubber
- 3** Spray nozzles
- 4** Deposition stack
- 5** Fan
- 6** Water pump
- 7** Water recirculation
- 8** Washing water tank
- 9** Purified air exit
- 10** Electro-magnetic field UV-X

APA can be easily integrated both in indoor environments, confined or partially confined, and outdoors (open spaces), as each system can have a different shape so as to be better integrated in the area of application.

In every usage environment, both strongly localized and widespread, to generate the maximum effectiveness it is possible to set up a **cluster of APA pollution absorbers**, structured with many functionalities and sized according to the specific needs and the features of the area under remediation.

APA devices are connected to each other and can be remotely controlled.

From the sensors to the monitoring of environmental parameters, from connectivity to video surveillance and the supply of information and/or advertising contents, **the technologies that allow APA to be integrated and connected to other solutions in terms of Internet of Things and Artificial Intelligence** are several.



## APA'S POINTS OF STRENGTH



**FILTER-LESS AND WATER-BASED TECHNOLOGY**



**LOW RUNNING COSTS AND REAL ECONOMIC SAVING**



**NO SPECIAL WASTE**



**MODULAR AND MULTI-SHAPED**



**WORKS INDOORS AND OUTDOORS**



**INTERNET OF THINGS AND MULTIDISCIPLINARY SERVICES**



**REMOTE MONITORING AND MANAGEMENT**

## WORKING IN A CLEAN AIR ENVIRONMENT

We re-think and re-design the spaces we live and work, operating as an entity responsible for the people living in them and the spaces they interacts with. We do that starting with the ambient air, a vital necessity for people's health and life and work quality. We consider the environmental quality as a distinguishing feature of every enterprise's activities, paying attention to workers and raising awareness of the culture of "clean air".

The use of APA in the **production and manufacturing areas** is necessary in order to limit the emissions of fine particles directly in the places where they arise, thus decreasing the risk of exposure of the personnel and surrounding areas.

APA is a new technology and a versatile solution enabling collective prevention and protection, also a valid aid to create safer and healthier spaces and a more sustainable management and business.

In fact, the technology enables, in closed environments, the reduction in air flows from outside, keeping the internal temperature constant, improving the energy efficiency of the building and lowering the running costs.

Furthermore, APA enables outdoors the decrease the diffusion of pollutants and smells near local and distributed sources of emission. While in applications to the chimney and at the beginning of Air Handling Unit systems, it allows the respect the limits prescribed by law and the fostering of people's well-being, with limited expenses and reducing running costs.

■ An enterprise that cultivates relations with its territory is an enterprise which, first of all, protects its natural and cultural wealth.

With this purpose in mind, according to the conditions and the needs of the **industrial areas**, APA can act in the different steps of the production process, by working not only downstream, but also directly on the point or source of emissions, thus allowing the abatement of all pollutants created in the working places and/or delivered outside.

Furthermore, thanks to its versatility, APA can be integrated with infrastructures and industrial/urban furniture already existing, and with pre-existing antipollution plants, contributing to increasing their efficacy.





## POSSIBLE SPHERES OF APPLICATION

- Wastecycle management
- Centers for goods handling and transportation management
- Building and construction
- Chemical industry
- Production of dry food and pre-slaughter breeding farms
- Cogeneration plants
- Metal manufacturing and steel plants
- Manufacturing of plastic materials
- Marble working, manufacturing of ceramics and fiberglass
- Paint furnaces
- Mechanical workshops
- Manufacturing of wood, paper and cellulose

## SOME FUCTIONS

- Sensor systems and monitoring of environmental parameters
- WIFI Hotspot
- Remote management
- Video surveillance
- Information and advertising services and contents

APA CAN BE USED BOTH IN  
WORKING AREAS AND  
AT POLLUTING SOURCES



In an urban context where every intervention must be aimed at improving everyday life, air quality becomes an overriding and noteworthy element. Starting from the concept of Smart City, thanks to APA, we create a new sustainable urban development model we call "Smart Clean Air City".

The public, private or commercial urban areas are going to be re-designed and re-planned to become more liveable and to improve the quality of the cities and people's lives.

integrated and work to improve the air quality for all.

Furthermore, APA can be equipped with intelligent systems that allow the enabling of a set of services for the city, such as the remote monitoring and control of systems and areas, WIFI, video surveillance, digital payments, multimedia services, digital signage, pollution sensing, etc.

## POSSIBLE PLACES FOR USAGE

- ▣ Hospitals and healthcare structures
- ▣ Schools and nursery schools
- ▣ Museums, libraries, theatres and theme parks
- ▣ Shopping malls and galleries, restaurant chains
- ▣ Public and private offices and places
- ▣ Apartment blocks and residential complexes
- ▣ Parks, streets and meeting points
- ▣ Airports and ports
- ▣ Railway and underground stations and docks
- ▣ Bus and coach stops and stations
- ▣ Underground and surface car parks
- ▣ Petrol stations
- ▣ Tunnels, toll booths and refreshment areas

## SOME FUNCTIONS

-  Sensor systems and monitoring of environmental parameters
-  WIFI Hotspot
-  Remote management
-  Video surveillance
-  Information and advertising services and contents

