



In partnership with



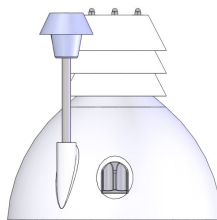
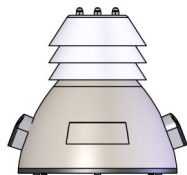
Consiglio Nazionale delle Ricerche

*Thanks to the financing of Tuscany Region and Mise, and in partnership with
CNR, born a technologically advanced system for the protection of the environment*



AIRQINO

AIR QUALITY CONTROL
Indoor & outdoor



UNIVERSITÀ
DEGLI STUDI
FIRENZE



JOINT LAB
ozone
PLANT HEALTH
DAGRI University of Florence



Certified Quality Management System
UNI EN ISO 9001: 2015
N ° 3901189

MADE IN ITALY



2020



INTRODUCTION

Air pollution, after the industrial revolution and with the increasing population, especially in urban areas, has become a phenomenon of utmost importance for the quality of life.

To correctly measure the level of pollutants and evaluate the degree of danger, environmental legislation requires the use of control units and the detection that covers the entire urban area being monitored and capillary.

Until now, however, the high cost of these devices has not allowed the creation of monitoring networks with adequate coverage to the territory with the consequent incompleteness of information.

The AirQino equipment was therefore "designed" and built to solve this problem.

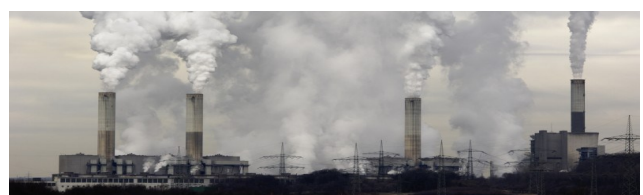
The expensive Environmental Protection stations (the only ones with legal value) can thus be upgraded with these devices of similar reliability, but much cheaper.

This type of station is foreseen in the European reference standard 2008/50/CE as a support station for the official network.

Due to their flexibility of use and economy, AirQino equipment can be deployed in large quantities to obtain a dense grid of sensors that covers the urban area of interest.

Thanks to the low cost it is possible to create networks of control units that in real time can provide information on air pollution at a very high spatial and temporal resolution. Moreover, it is possible to predict in advance the spread of pollutants on the territory through the elaboration of appropriate mathematical models, allowing to take counter-measures.

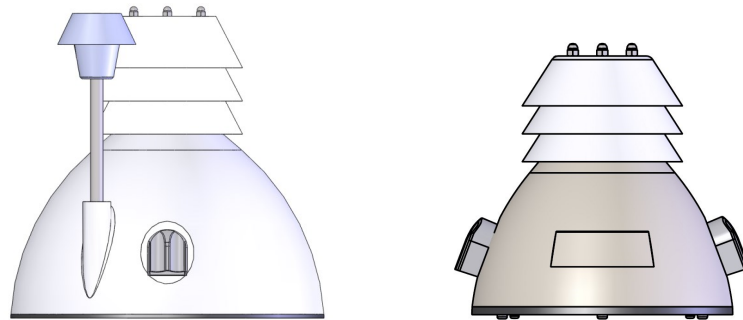
The information acquired can have users at different levels of access.



AIRQINO SYSTEM

From the collaboration between TEA and CNR comes AirQino.

AirQino is an equipment dedicated to the monitoring of air quality. It comes from research projects "smarthcities" finalized to the use of new technologies and new high technology "low-cost" sensors for monitoring the main parameters of air quality, that is:



The system is equipped with an SD CARD on which all data is stored. It is also possible to have a USB, Ethernet or RS232 serial connection. It is possible to configure the system according to your data transmission needs (GSM, WIFI, Bluetooth connection) and it is possible to equip the system with a buffer battery to allow the system to operate even in the absence of power.

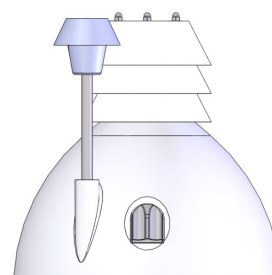
TEA in collaboration with CNR (IBE) National Research Council of Florence (www.ibe.cnr.it) and Quanta S.r.l. (www.quanta.it), has designed and developed AirQino to monitor air quality both in INDOOR version for monitoring air quality inside buildings and homes, and in OUTDOOR version for monitoring urban areas, roads, parks, etc.. The collected data are available in real time through a WEB application.

To test its operation, TEA in collaboration with CNR has used the most important Italian Environmental Agencies (ARPAT, ARPAV, ARPAC, ARPAE etc.).

Subsequently, it has created more than 400 devices installed throughout Europe and the USA.



AIRQINO OUTDOOR



Standard features AIRQINO OUTDOOR

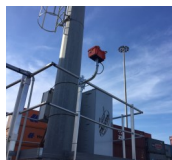
Parameter	Unit	Min	Max	Range	Resolution	Accuracy
Air temperature	°C	-40	80	-40 – 80	0.30	5%
Relative humidity	%	0	100	0-100	1.00	5%
CO₂ (carbon dioxide)	ppm	0	2000	0-2000	1.00	10%
O₃ (ozone)	µg/m ³	0	1000	0-1000	1.00	15%
NO₂ (nitrogen dioxide)	µg/m ³	0	5000	0-5000	5.00	15%
CO (carbon monoxide)	mg/m ³	0	30	0-30	0.03	15%
Total VOC (volatile organic compounds)	µg/m ³	0	1000	0-1000	1.00	15%
PM 2.5 – PM 10 (fine dust)	µg/m ³	0	1000	0-1000	1.00	10%
Relative humidity	°C	-40	80	-40 – 80	0.30	5%
GPS						
Memory CARD						

Optional features AIRQINO OUTDOOR

Sensors	Connections	Accessories
Accelerometer	WiFi - ETHERNET	Mains power supply
NO (monossido di azoto)	BLUETOOTH	Brackets and poles
NOX (nitrogen oxides)	USB	Solar panel module
H₂S (hydrogen sulfide)	RS232 - RS485	Backup battery
SO₂ (sulfur oxide)	GSM - GPRS	
C₆H₆ (benzene)		
CH₄ (methane)		
NH₃ (ammonia)		
Noise 0 – 100 db		

EXAMPLES OF ACTUAL INSTALLATIONS IN OPERATION

6 AIRQINO PLANT IN OPERATION
CITY': LIVORNO 2018



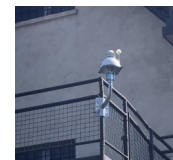
1. REFINERY



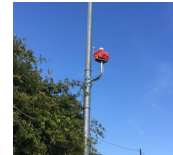
2. PORT



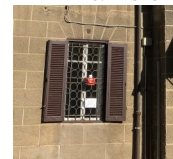
3. TOWN CENTER'



4. URBAN SUBURBS



5. FACTORY



6. URBAN SUBURBS

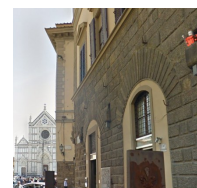
4 AIRQINO PLANT IN OPERATION
CITY': FIRENZE 2019



1. XIMENIAN MUSEUM



2. TRAMVIA STATION



3. TOWN CENTER'



4. URBAN SUBURBS



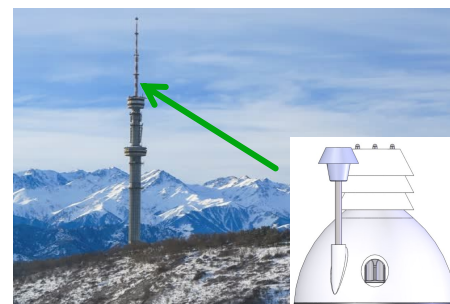
CAMPAGNA



CITTA'



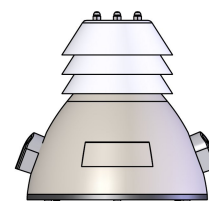
DRONE



ALTA MONTAGNA

AIRQINO INDOOR

Per ambienti chiusi dove sia probabile una fonte inquinante dell'aria: industrie, chimiche, metallurgiche, ambienti scolastici, laboratori di test e analisi; cioè ovunque ci siano persone da proteggere dall'inquinamento.



Standard features AIRQINO INDOOR

Parameter	Unit	Min	Max	Range	Resolution	Accuracy
Air temperature	°C	-40	80	-40 – 80	0.30	5%
Relative humidity	%	0	100	0-100	1.00	5%
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PM 2.5 – PM 10 (fine dust)	µg/m ³	0	1000	0-1000	1.00	10%
Relative humidity	°C	-40	80	-40 – 80	0.30	5%
Formaldehyde						
GPS						
Memory CARD						

Optional features AIRQINO INDOOR

Sensors	Connections	Accessories
Accelerometer	WiFi - ETHERNET	Mains power supply
NO (monossido di azoto)	BLUETOOTH	Brackets and poles
NOX (nitrogen oxides)	USB	Solar panel module
H₂S (hydrogen sulfide)	RS232 - RS485	Backup battery
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EXAMPLES OF ACTUAL INSTALLATIONS IN OPERATION

AIRQINO PLANT IN OPERATION
MUSEUM OF PESARO



TECHNICAL CHARACTERISTICS OF THE AIRQINO

For its characteristics and results obtained, AirQino is to be considered a product with a very high quality/price ratio and unobtainable on the market. Some examples of applications are:

- Monitoring of air quality in urban areas.
- Monitoring of air quality in schools.
- Monitoring of the food quality chain.
- Monitoring in compliance with safety standards in industrial environments.

	INDOOR	OUTDOOR
Supply	12Vdc	12Vdc
Consumption	2W	2W
IP	IP20	IP55
Dimensions	Ø130 x H129,5	Ø200 x H193
Weight	450 g	980 g



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