



HYGIENIC  
AIR QUALITY EXPERT



- NEW TECHNOLOGY -  
PHOTOCATALYSIS

COMPLIANT WITH FRENCH & INTERNATIONAL STANDARDS  
NFS 90-351 / EN 14644

room  
**DOPair**<sup>®</sup>

AIR FILTRATION AND DECONTAMINATION MOBILE UNIT





## ABOUT ATA

## WHO WE ARE

Since 1987 ATA has gained rich experience in designing and marketing air handling units for all areas where infection risk tends to occur. ATA proposes a range of hygienic products which corresponds to all requirements of hospital and industrial sectors.

ATA's solutions are developed by an engineering department having more than 20 years of expertise.

In continued cooperation with University research centres in France, ATA stays updated about the latest technologies.

Services offered by ATA, such as audit, technical assistance and training, ensure its users get the most from their new equipment.

# QUALITY

Our management system is certified ISO 900 : 2008, therefore, ATA's products are all CE marked.

We ensure that each product:

- ▶ Is tested at our factory before shipping
- ▶ Consists of components carefully selected according to quality and performance requirements
- ▶ Can be installed on the site by a qualified technician respecting all our protocols
- ▶ Has a unique serial number allowing traceability during its life cycle.

# INTERNATIONAL

ATA has a solid reputation in hospitals and clinics in France, but in other countries too, as 40% of its turnover comes from export to 30 countries thanks to a large distribution network.



# room DOPair®



155 CM

50 CM

74 CM

## ROOM DOPAIR

ROOM DOPAIR is a mobile medical device for air purification and decontamination for hospital risk areas.

Instantly operational and completely silent, ROOM DOPAIR can reach performance required for ISO 6 (minimum 25 air changes per hour), ISO 7 (minimum 15 air changes per hour) and ISO 8 areas (NF ISO 14644-1).

No modification or alteration work is required for its implementation.

## FUNCTIONS

ROOM DOPAIR reduces:

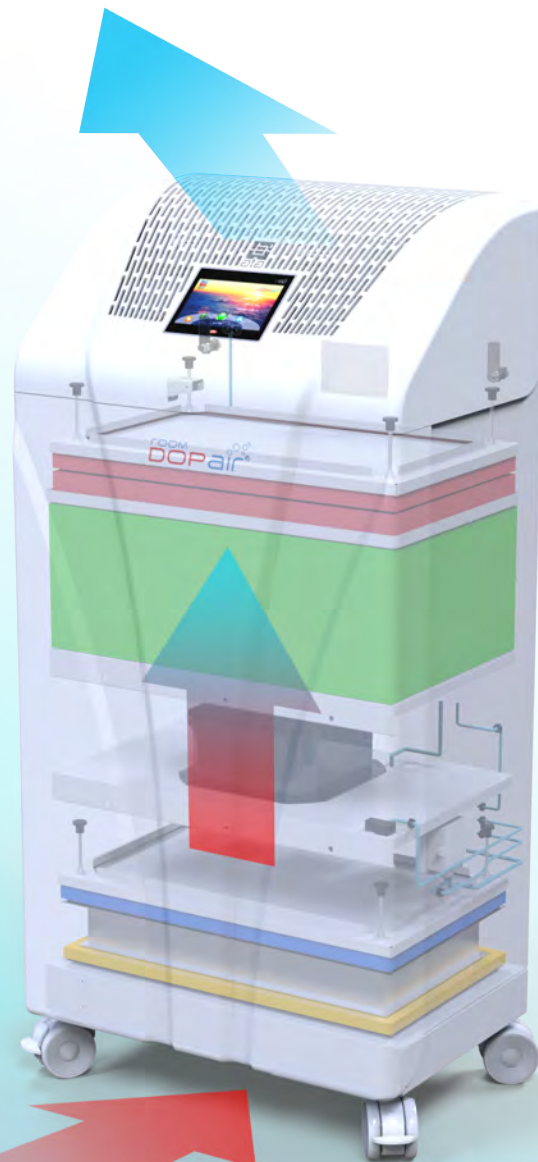
- ▶ Hospital acquired infections (HAIs) risk and has bactericide, fungicide, sporicide and virucide action on living particles like *Aspergillus Niger*.
- ▶ Molecular pollution (VOCs, formaldehydes, ...)

## DEVELOPMENT

As the result of working in partnership with our clients, ROOM DOPAIR was developed taking into account remarks of hospital staff - both users and hygienist medical teams.

The final result is a compact, silent and mobile unit offering an immediate solution to reach the required bacteriological and particulate classes, and a powerful reduction of molecular pollution.

# TECHNOLOGICAL QUALITY



**STAGE 4**  
HPC REACTOR

Retention of the finest remaining particles  
(efficiency 99.995% MPPS)

**STAGE 3**  
HPC REACTOR

Destruction of microorganisms (biocide action)  
and organic pollutants (VOCs)

**STAGE 2**  
FILTRATION

Filtration module for other particles  
(M7 Efficiency as per EN779)

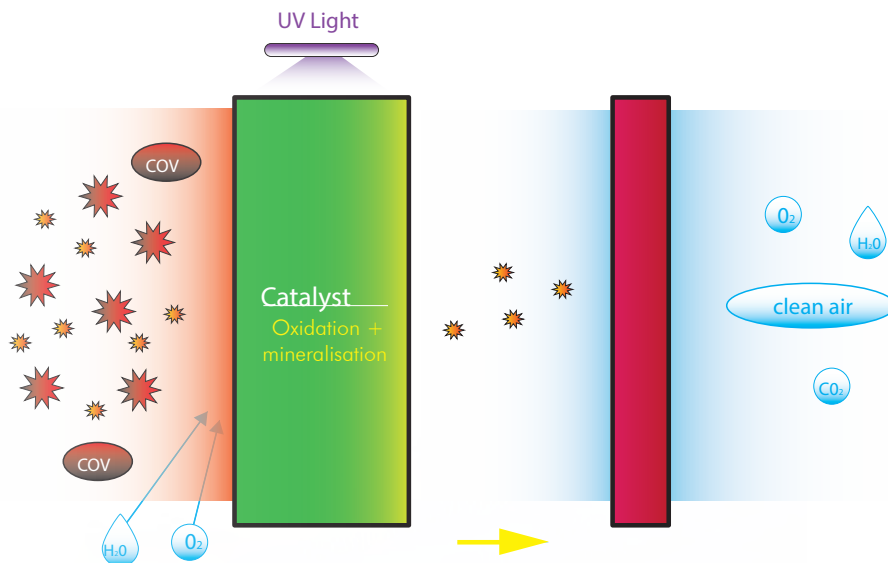
**STAGE 1**  
PRE-FILTRATION

Pre-filtration module for large particles  
(G4 efficiency as per EN779)

## DECONTAMINATION PROCESS

The air absorbed by the ROOM DOPAIR goes through several stages to be purified:

- A pre-filtration stage which consists in 2 filtering steps:
  - a first step where the largest particles (hair, dust, etc) are blocked,
  - a second step where the smaller particles are also retained with an efficiency of more than 80%.
- A particles destruction stage which consists again in 2 steps:
  - In the HPC module, first, the finest micro-organisms persisting and the VOCs are destroyed by the action of photocatalysis.
  - Then, the few remaining particles are blocked.

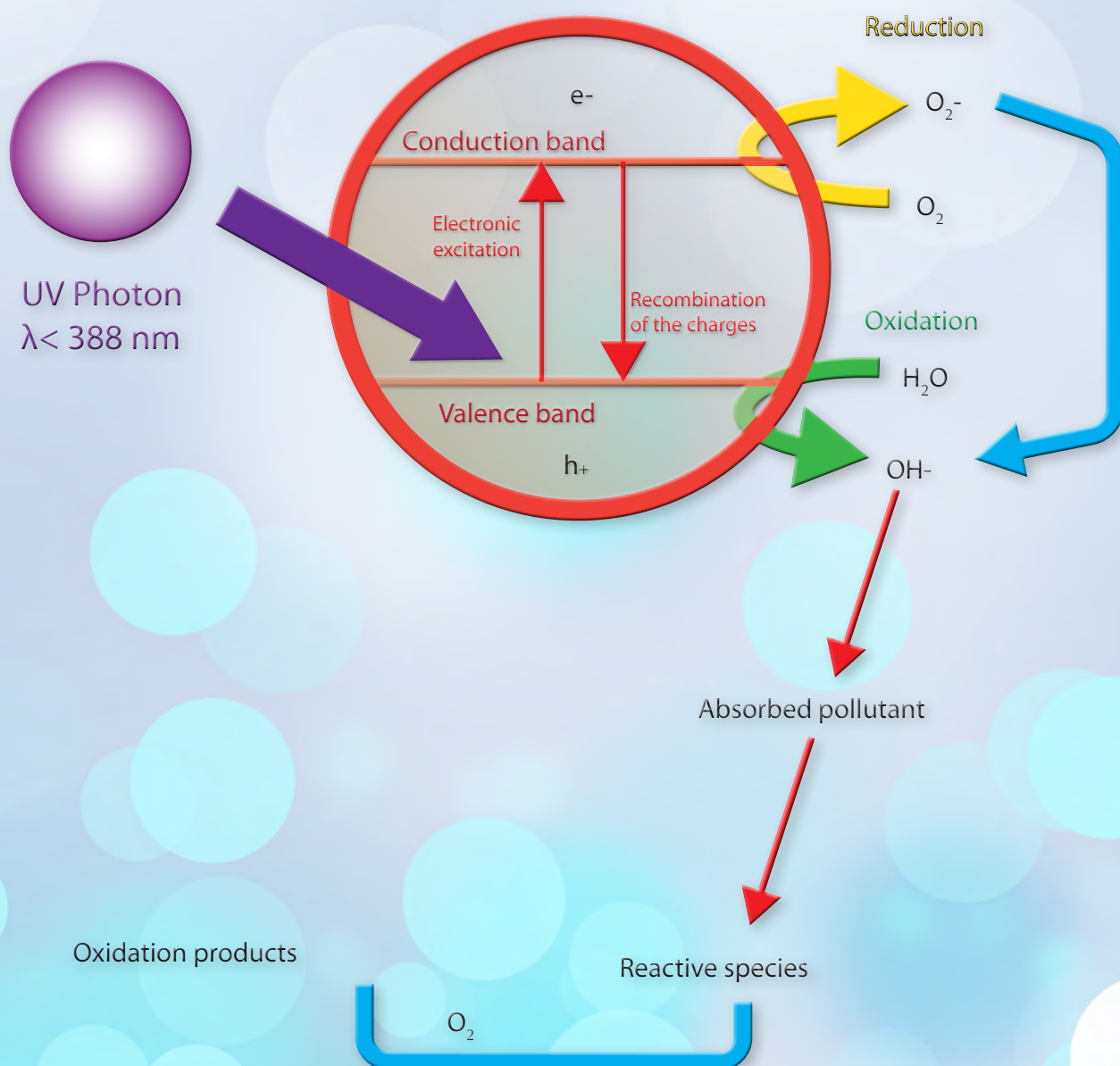


- Destruction phase: thanks to the catalyst from the HPC technology. The catalyst is activated by a light source and absorbs the particles.
- The reaction of the light with the catalyst generates electrons-holes which react with water and oxygen molecules (H<sub>2</sub>O and O<sub>2</sub>) present in the air to create OH° and O<sub>2</sub>°- radicals.
- The pollutants (chemical molecules and micro-organisms) are destroyed by these radicals thanks to 2 chemical reactions:
  - 1) Oxydoreduction which is very aggressive against micro-organisms and has a powerful biocide action.
  - 2) Mineralization which has effects on VOCs, vapors, bad odors, etc.



# HPC REACTOR: PHOTOCATALYSIS

Elementary particle of  $\text{TiO}_2$





## OBJECTIVES

Photocatalysis is a destruction process that eliminates microorganisms (chemical pollutants as well as bacteria, virus, molds, yeast, fungus) via chemical reactions.

These various organic compounds are carbon based.

Photocatalysis is a specific case of heterogeneous catalysis (between a solid and a fluid).

The objective of photocatalysis is to destroy the pathogens and to eliminate the volatile organic compounds in an efficient way, without using any chemical product, without producing ozone or any other harmful byproduct, and with reduced and efficient energy requirement.

## THE PHOTOCATALYSIS PROCESS

The photocatalysis principle is based on a catalyst material, titanium dioxide ( $\text{TiO}_2$ ). A catalyst is a substance that accelerates or enhances a chemical reaction without loss of original mass.

When the catalyst is irradiated by UV light (it means a high energetic irradiation), electrons are transferred from the valence band to the conduction band of the semi-conductor (catalyst), contributing to produce superoxide ions ( $\text{O}_2^-$ ) on one hand and hydroxyl radicals ( $\text{OH}^*$ ) on the other hand.

Indeed, the strong bonding properties of titanium, which attracts oxygen atoms and water vapor, allow an almost inexhaustible source of free electrons.

Free electrons from the hydroxyl molecule and the superoxide ions are very powerful oxidizing agents that destroy and eliminate the organic compounds (bacteria, virus, VOCs, bioaerosols, etc). An oxidizing agent is a substance that removes electrons from other atoms or molecules.

In the case of carbon based microbes, removing electrons causes an oxidation-reduction reaction. : the hydroxyl radicals and superoxide ions seek out any local compounds present in the air to bind with (oxygen, titanium dioxide) to neutralize their free electrons. The result is the creation of water vapor and carbon dioxide.

# PROVEN EFFICIENCY

## PROVEN EFFICIENCY

An independent laboratory has tested the effects of ROOM DOPAIR on viruses, bacteria (Gram + and Gram -), spores and molds.

The test reports show an excellent microbial efficiency against E.coli, Pseudomonas, MRSA, H1N1, Bacillus spores and many more.

\*The tests have been conducted by VirNext, Faculty of Medicine, University of Lyon, France.

Room Dopair allows the decontamination of a confined space of a volume of 2.5m <sup>3</sup> in 5 minutes with efficiencies of :	
INFLUENZA H1N1	99.9929 %
ADENOVIRUS 5	99.905 %
BACILLUS SUBTILIS	95.234 %
PSEUDOMONAS AERUGINOSA	99.965 %
ESCHERICHIA COLI	99.925 %
STAPHYLOCOCCUS AUREUS	99.842 %
ENTEROCOCCUS FAECIUM	99.800 %
CANDIDA ALBICANS	99.973 %
ASPERGILLUS FUMIGATUS	99.467 %

As per EN 1446 - NF S 90-351 standards, ROOM DOPAIR is appropriate for the decontamination of a room up to:

- ▶ 32 m<sup>2</sup> or 344 sft\* (with 15 air change per hour)
- ▶ 19 m<sup>2</sup> or 205 sft\* (with 25 air changes per hour)
- ▶ 10 m<sup>2</sup> or 108 sft\* (with 50 air change per hour)

\*Considering a ceiling height of 2.5 m or 8 ft.





## APPLICATIONS

- ▶ Operating room ISO 6/7/8
- ▶ Intensive Care Unit / Resuscitation
- ▶ Isolation room
- ▶ X-ray room
- ▶ Neonatal unit
- ▶ Bronchoscopy
- ▶ Post-anesthesia Care Unit
- ▶ Oncology
- ▶ Hematology
- ▶ Endoscopy
- ▶ Sterilization
- ▶ Sterile areas
- ▶ Burn wards
- ▶ Emergency room
- ▶ And other risk zones...





# TECHNICAL CHARACTERISTICS

TECHNICAL CHARACTERISTICS	
Air flow	300-1200 m <sup>3</sup> /h (with constant air flow regulation)
Air supply	Via plenum
Mobility	4 wheels
Control panel	Multi-function touch screen
Dimensions (L x l x H)	740 x 500 x 1550 mm
Weight	100 kg
Air intake filtration	G4 + F7 (low pressure drop filter made of polypropylene)
Air supply filtration	H14 (low pressure drop filter made of polypropylene)- single or double stage
Photocatalysis module	Photocatalysis lamp
Probe VOC, temperature, humidity	Probe E4000 at air intake
Particule probe	Probe P4000 at air supply
Pressure probe	Air intake, air supply, fan
Remote control	Touch pad 7" Wifi (Optional)
Internal structure	"Double skin" galvanized steel panels
External structure	Thermoformed panels
Electrical power	120-230 V / 50-60 Hz
Interface languages	French / English / Spanish / German / Chinese
Power consumption	450 W



## AIR FRESH KIT [OPTION]

Possibility of use of rectangular or circular connections

## MAIN ADVANTAGES



-Multi-functions control panel with LCD touch screen



-PLUG & PLAY system



-Bactericidal, virucidal, fungicidal (including spores) actions and molecular decontamination



-Decontamination kinetics CP10 (particles  $0.5 \mu$ )



-Bacteriological class M5 / B5



-Particular class ISO 8 / ISO 7 / ISO 6



- Microbiological reduction: up to 99.999% in a single pass



- Very low sound level: 42 dBA at 900 m<sup>3</sup>/h



- Device capable of running 24/24 hrs, 7/7 days



- Air flow speed adjustable up to 1200 m<sup>3</sup>/h

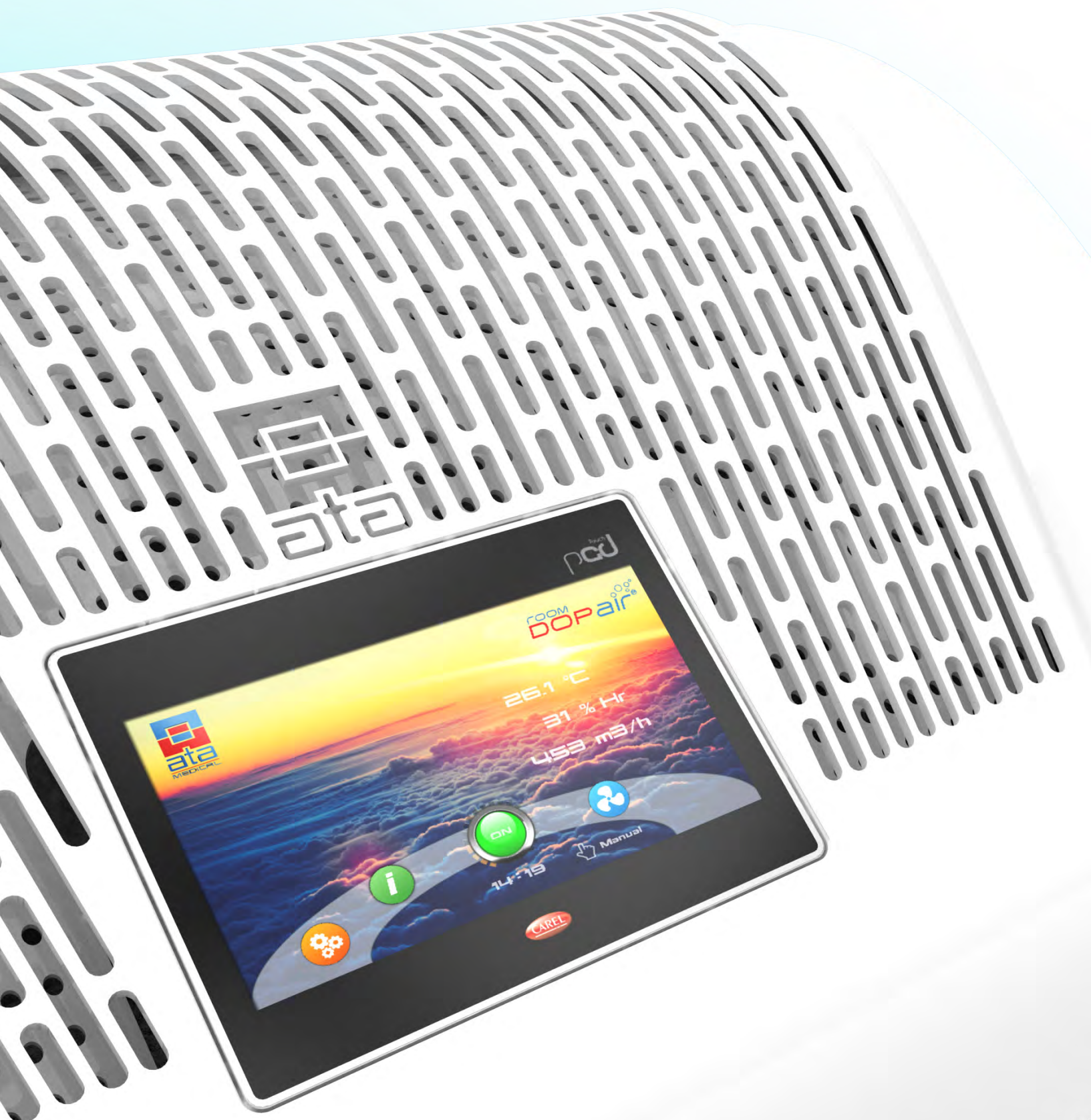


- Mobile



-Easy to move by a single person

## INTEGRATED 7" TOUCH SCREEN





## INFORMATIONS

- ▶ Air flow (day/night/auto/manual) in m<sup>3</sup>/h
- ▶ Humidity
- ▶ Temperature
- ▶ Level of VOCs
- ▶ Particulate concentration
- ▶ Alarms on all points (probes, filters, fan...)
- ▶ Maintenance menu (date of filters changing, or other type of maintenance operation)
- ▶ Secured information with access code

## TRACEABILITY

- ▶ Serial No., manufacturing date, installation date, running hours)
- ▶ Model type
  - ▶ Date and time
  - ▶ Client name
  - ▶ VOCs and fine particles
  - ▶ Energy saving process
  - ▶ Maintenance report: Hospital, date, technician, details about maintenance operations
  - ▶ Follow-up: reading and control via RJ45
  - ▶ Alarms memory: last 2000 alarms

## INTERFACE LANGUAGES



FRENCH



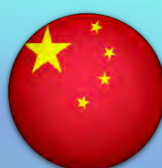
ENGLISH



SPANISH



GERMAN



CHINESE



## REMOTE CONTROL



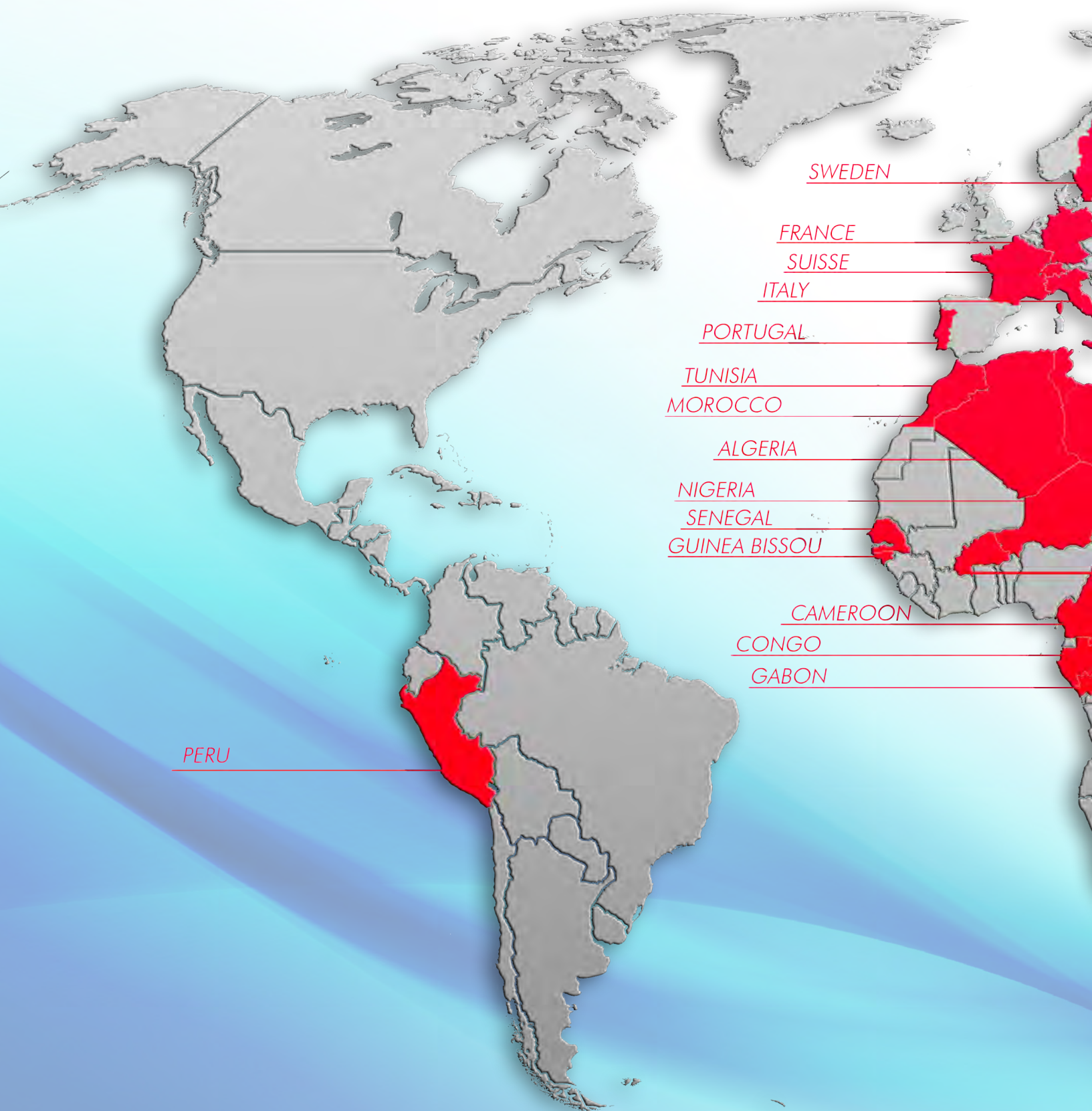
## REMOTE CONTROL

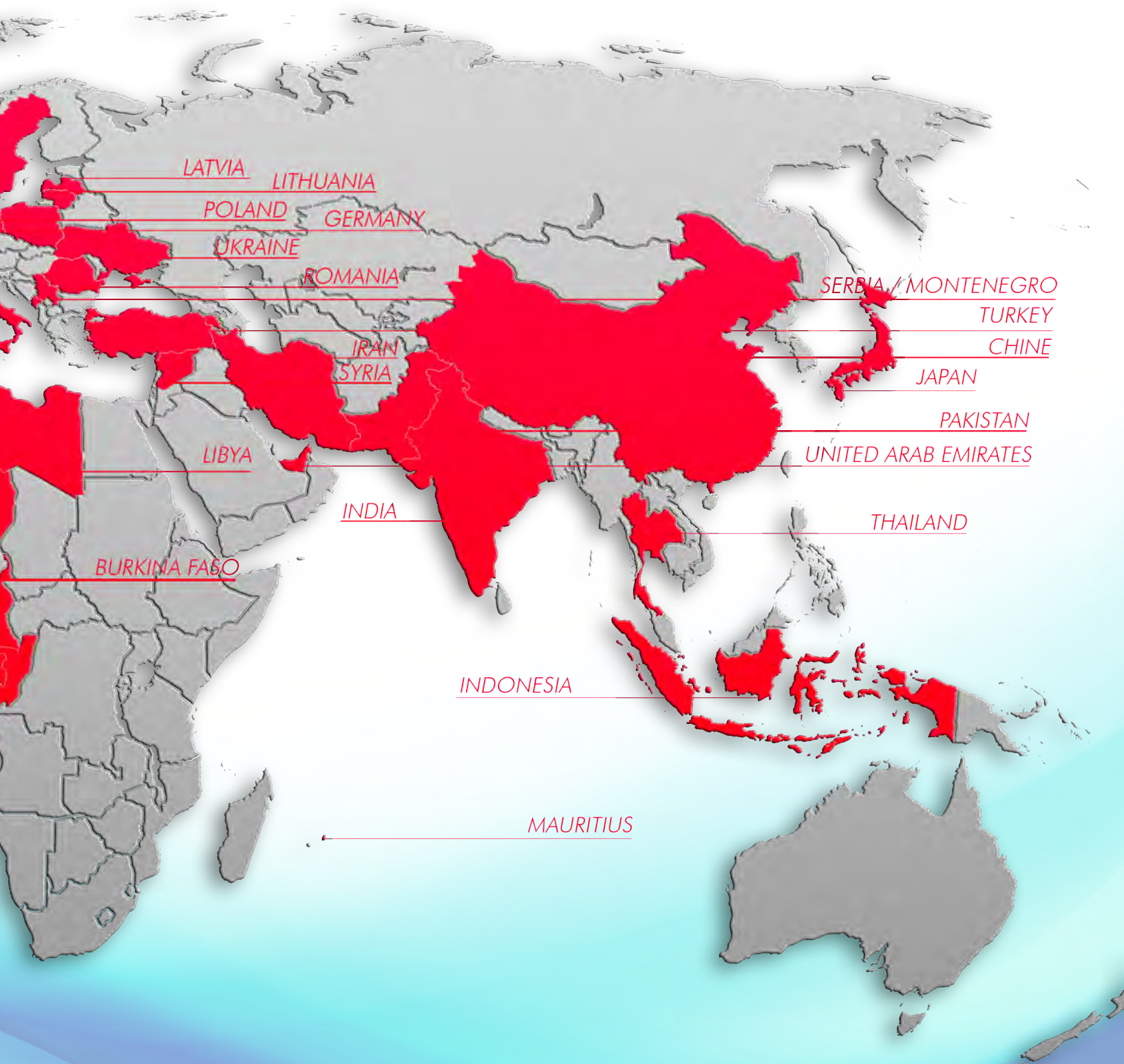
- ▶ Touch pad 7" for control via WIFI
- ▶ Display and two-way and real-time control of ROOM DOPAIR
- ▶ Coverage up to 40 meters (depending on the layout of the building)
- ▶ Up to 20 ROOM DOPAIR can be controlled simultaneously from a single device.





# WORLDWIDE REFERENCES





LATVIA

LITHUANIA

POLAND

GERMANY

UKRAINE

ROMANIA

IRAN

SYRIA

SERBIA / MONTENEGRO

TURKEY

CHINE

JAPAN

PAKISTAN

UNITED ARAB EMIRATES

LIBYA

INDIA

THAILAND

BURKINA FASO

INDONESIA

MAURITIUS



# INTEGRATION AND OPERATION IN THE





# OPERATING ROOM

AIR SUPPLY

AIR INTAKE

room  
DOPair<sup>®</sup>



## PRODUCT RANGE



### MEDICAL MOBILE DEVICES FOR AIR PURIFICATION AND DECONTAMINATION IN HOSPITALS' RISK AREAS

OPERATIONAL IMMEDIATELY AND COMPLETELY SILENT, THEY CAN ACHIEVE PERFORMANCE REQUIRED FOR ISO6 ZONES (MINIMUM 25 AIR CHANGES PER HOUR), ISO 7 (MINIMUM 15 AIR CHANGES PER HOUR) AND ISO 8 (NF ISO 14644-1).

### TECHNICAL SOLUTIONS FOR AIR TREATMENT AND AIR HYGIENE CLINICAIR® VERTICAL OR HORIZONTAL TYPE AND PRECISION AIR HANDLING UNITS

- AIR QUALITY IN TERMS OF DUST CLASS ( ISO5/7/8)
- BACTÉRIOLOGICAL CLASS
- TEMPERATURE
- HYGROMETRY
- PRESSURE AVAILABLE

CHASSIS T2/TB1, EN 1886.

**LAMINAR AIR FLOW CEILING (SIMPLE/DOUBLE FLOW)**  
**OPERATING LED LIGHTS RANGE: 160.000 LUX + 130.000 LUX**



Distributeur

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CERTIFICATION ISO 9001  
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