

# OHAir<sup>®</sup>

Reduce the risk of  
airbourne and surface  
viruses and bacteria

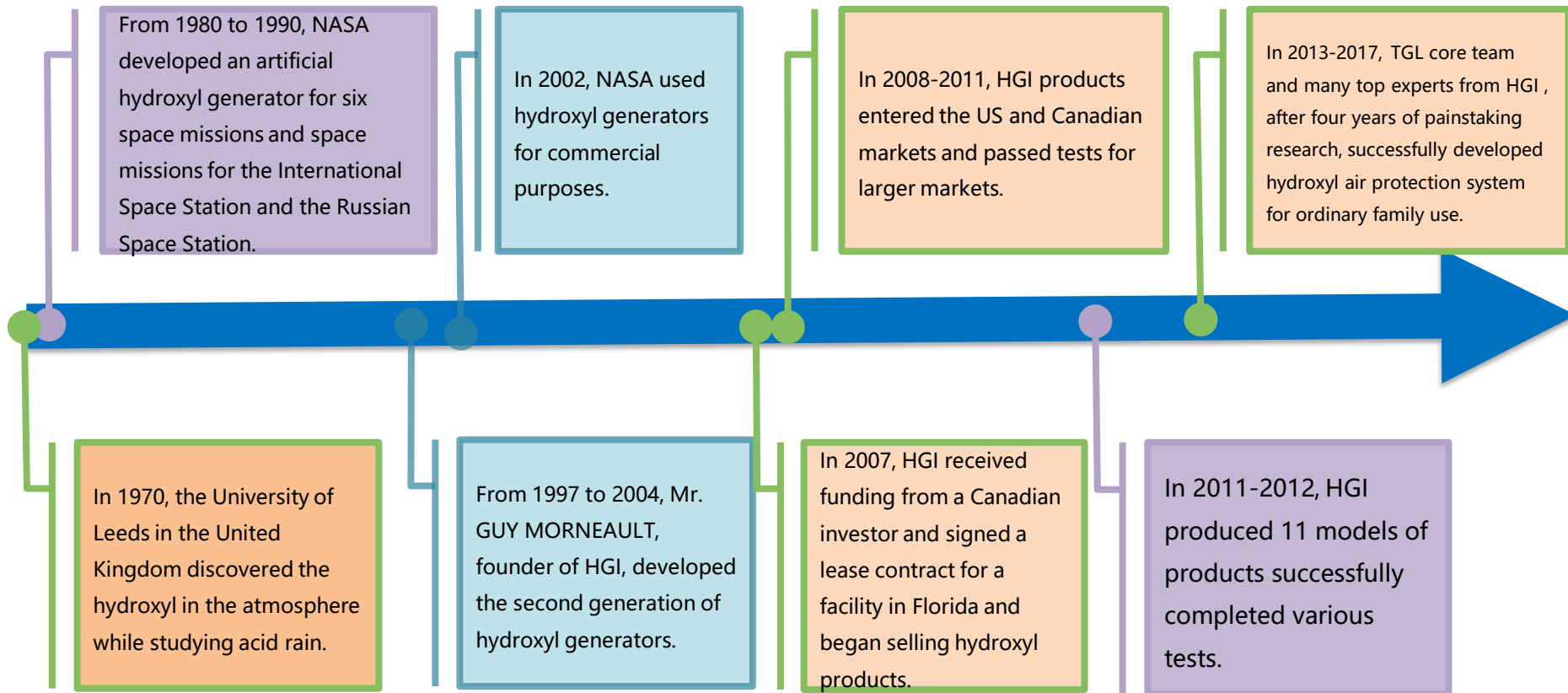


An exceptionally fast, safe and effective air and surface treatment system which removes 99.99% of surface and air pathogens within one hour, including COVID-19

U.K. Distributor  
Clever Engineering (Kent) Ltd  
**01795 432640**  
sales@cleverengineering.co.uk

# Hydroxyl generator technology Timeline

The hydroxyl generator was originally developed by NASA and used in space missions. It has been used in commercial and industrial fields by HGI. ◦



# Commercial Product Range

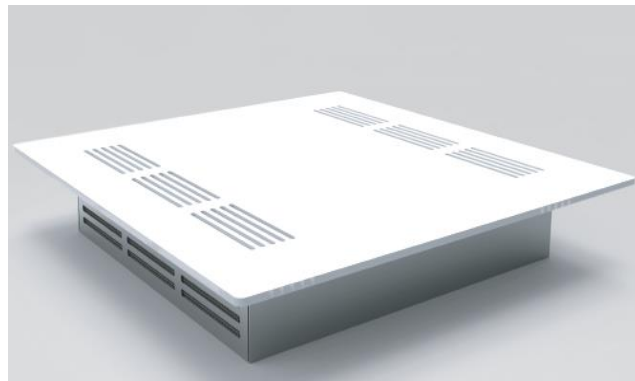
## OH Air MySpace



**Dimensions 330 (l) x 110 (w) x 290 (h) [mm]**  
**AC 110 – 240V**

**Maximum Power 45W**  
**Colour Options White, Dark Grey, Red and Blue**  
**Typical size room 65sq.m**  
**Noise level 32-38dba @ 1m**  
**Weight 3.8kg**  
**User Interface Wifi and NFC**

## OH Air Architect



**Dimensions 325 (l) x 300 (w) x 74 (h) [mm]**  
**AC 110 – 240V**

**Maximum Power 45W**  
**Colour Options White, Dark Grey, Red and Blue**  
**Typical size room 50 sq.m**  
**Noise level 32-38dba @ 1m**  
**Weight 2.8kg**  
**User Interface infrared remote control**

## OH AIR MySpace X



**Dimensions 378 (l) x 311 (w) x 96 (h) [mm]**  
**AC 110 – 240V**

**Maximum Power 45W**  
**Colour Options White, Dark Grey, Red and Blue**  
**Typical size room 65 sq.m**  
**Noise level 32-38dba @ 1m**  
**Weight 2.25kg**  
**User Interface Wifi**

# Hydroxyl Generator Benefits

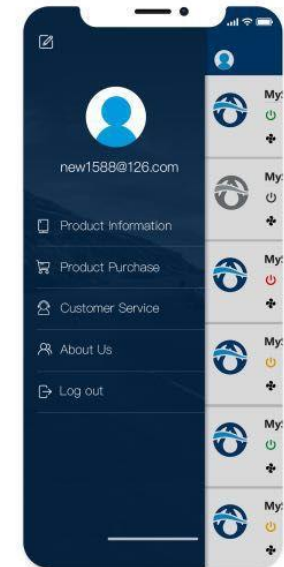
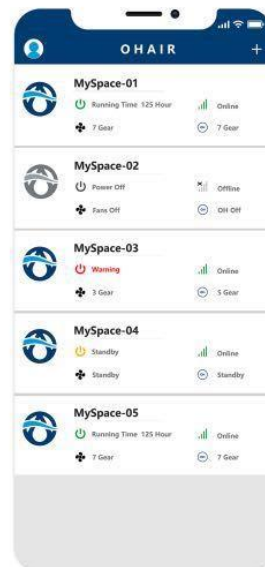
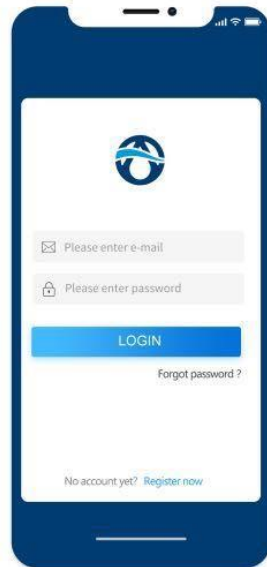
- Removes odours
- Kills bacteria, virus, molds (-OH) destroys their structure and turns them into H<sub>2</sub>O and CO<sub>2</sub>, unlike like filters which only capture them and may allow the pollutant to return to the environment again.
- Can neutralise 5000 types of VOCs including formaldehyde.
- Hydroxyl generator cartridge has a working capacity of 14,000 hours, so if used for 8 hours per day, the generator will last for around 5 years and is low cost, unlike HEPA which will need regular replacement and is expensive.

## Easy to set up and control

Myspace X uses a full touch screen and includes wifi interface to allow control from a mobile app.

US patented technology: Hydroxyl (OH) air protection system. ( Patent No : OHAIR6062-T0008-CN139741041/OHAIR6062-T0008 86/149.280 )

# APP Smart Control

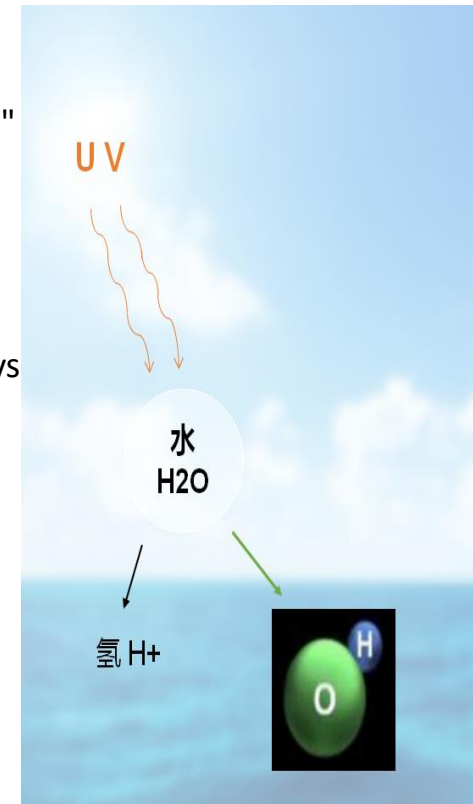


# Bacteria & Virus Control

- Characteristics: The common bacteria and viruses found in indoor spaces are hemolytic streptococcus, green streptococci, pneumococci, influenza virus, tuberculosis and the like.
- Source: These bacteria and viruses can spread on the dust in the air. Through activities such as talking, coughing, sneezing, etc., pathogenic microorganisms in the mouth, throat, trachea, and lungs can be sprayed into the air by droplets and spread to others.
- Traditional HEPA and activated carbon only transfer pollutants in the air, and the ability to sterilize air is very limited because the diameter of bacteria and viruses is calculated in nanometers, while the filter is aimed at microparticles.
- Hydroxyl technology is recognized as an advanced oxidation technology in Europe and the United States. It has powerful air odour treatment, air disinfection and air purification functions. Due to technical bottlenecks such as band value and rare metal ratio, there are only a handful of companies in the world that have mastered the technology. Xinsheng Technology is one of them.

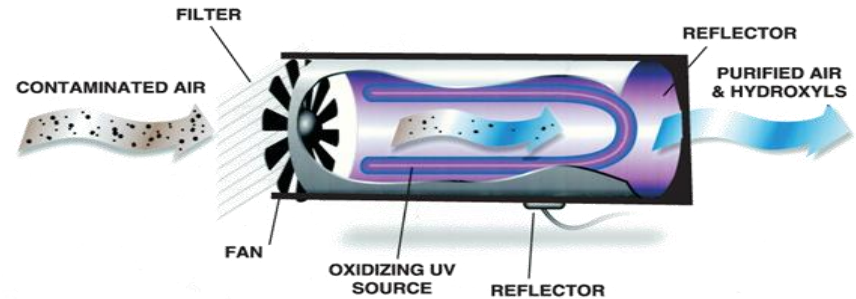
# Core Technology: (OH hydroxyl technology)

- Hydroxyl (OH), like oxygen and hydrogen, is a natural free radical in nature. It is also one of the most oxidizing oxidants and can decompose more than 5,000 organic compounds. In nature, it has always played the role of a "natural purifier." The OHAIR Hydroxyl Air Protection System brings the "natural purification" of hydroxyl to our home.
- The OHAIR hydroxyl technology simulates the process of producing hydroxyl groups in nature, and the high-tech UV lamps generate multi-band ultraviolet rays to illuminate water molecules in the air to produce hydroxyl groups.
- Reaction process:  $UV + H_2O = H^+ + OH^-$
- Once hydroxyl groups (OH) are produced, they undergo a cascade reaction in the air to "find and destroy" volatile organic compounds (VOCs), odor molecules, molds, bacteria, viruses, etc. on the surface of air and objects.
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# Core Technology: (OH hydroxyl technology)

The OHAIR hydroxyl technology simulates the process of generating hydroxyl groups in nature, and the high-frequency UV lamp generates multi-band ultraviolet rays to illuminate water molecules in the air to produce hydroxyl groups.



Internal schematic diagram of hydroxyl generator

Reaction process:  $UV + H_2O = H^+ + OH^-$

Once the hydroxyl groups (OH) are produced, they will “find and destroy” volatile organic compounds (VOCs) on the surface of air and objects, including 5,000 volatile organic compounds including formaldehyde and benzene, which will be decomposed into harmless to the human body. Carbon dioxide and water odor molecules.

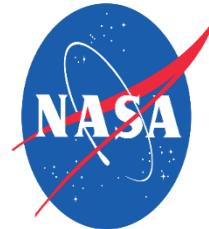
As one of the most oxidizing oxidants, hydroxyl (OH) eliminates 99.9% of harmful bacteria and viruses, including influenza, E. coli and staphylococci, and eliminates odors. Thereby achieving the purpose of truly purifying the air.



# Certification authority



OHAIR Hydroxyl Air Protection System Equipment has been certified by China's CQC, US FDA, EU CE, US UL, Australia RCM and other global authorities. There are also recommendations recommended by the US Environmental Protection Agency and NASA, which have been applied in large quantities in the civil, industrial, and commercial fields around the world in the United States, Canada, Europe, and Australia.



# OHAir Technology Validation

- **Lovelace Respiratory Research Institute**, the premier US atmospheric chemistry research center, verified OHair<sup>®</sup> hydroxyl formation and reaction rates
- **Comparative Biosciences** conducted the voluntary OHair<sup>®</sup> toxicology studies and verified safety according to strict FDA Good Laboratory Practices (GLP) standards
- **Columbia Analytical Services** quantitatively measured the decomposition of a wide range of pollutants reacting with OHair<sup>®</sup> oxidants (See [www.hgiind.com](http://www.hgiind.com) )
- **ATS Labs** verified OHair<sup>®</sup> technology capability to kill wide range of clinically and commercially important bacteria, viruses and molds (fungi) in the air and on surfaces (See [www.hgiind.com](http://www.hgiind.com) )



# Medical function air purifier

The OHAIR protection system has unique medical support functions, which are not available in most air purifiers.

- ✓ Actively decompose bacteria, viruses and harmful gases present in the air and on the surface of the object.
- ✓ It also has unique effects on all kinds of discomfort and respiratory diseases caused by allergies (pollen, mites, hair)



pollen allergy



Polluted air  
allergy



Aphid  
allergy



Hair  
allergy



Respiratory  
disease

# Applications



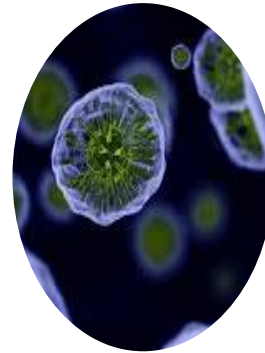
Domestic



Hospitals



Healthcare /  
Dental



Veterinary



Common Spaces



Hotels



manufacturing



Waste treatment



Environmentally  
Compromised



Food processing industry

# O.H. Air's Manufacturing Facility



# Hydroxyl technology Case Studies

## Costco warehouse fire recovery

During Christmas, Costco fired in a warehouse in Florida, and 75 firefighters spent two hours extinguishing the fire. It is expected that the fire will cause the store to close for 30 days, with a value of about \$6 million worth of goods due to fire. The smell will not be sold.

## Solution

HGI's hydroxy technology equipment was used to repair the air environment after a fire.

## Implementation Effect

The store reopens within 36 hours instead of the expected 30 days. Most of the consumer odors are eliminated and can continue to be sold? Estimated savings of \$28 million and reduced store closures



# Hydroxyl technology Case Studies

## TOYOTA (Toyota) Automobile Factory

TOYOTA auto manufacturers have used plant coolants to form toxic pollutants on a number of high capacity CNC machine tools (metal cutting, boring and other automation equipment). The organic components of biological pollution have not been detected before. Odor pollution within and around facilities has led to concerns among employees, the public and municipal departments.

## Solution

HGI's hydroxy technology equipment was used to eliminate odor complaints and eliminate biofouling.

## Implementation Effect

total oxidant levels were reduced to 0.015-0.04 ppm versus regulated limit of 1 ppm, coolant odors were eliminated.

HGI is currently in discussions with GM and Chrysler.



# Hydroxyl technology Case Studies

## MillerCoors Brewery

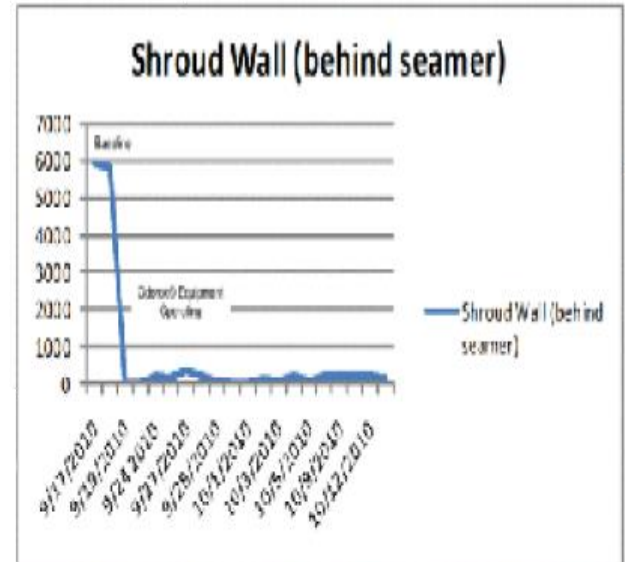
The MillerCoors brewery is the second largest brewery in the United States. They have been cleaning and disinfecting canned lines with chlorine dioxide solution. The bacteria content of the canned line is very high, the time between cleaning/sanitary/disinfection is very long, and the consumption of fresh water is very large.

## Solution

HGI's hydroxy technology equipment was used for cleaning and disinfecting canned lines.

## Implementation Effect

- reduced use of chlorine dioxide solutions by 65%
- reduced unscheduled bottling line shutdowns by 90%
- reduced line changeover time from 12 to 4 hours





# Hydroxyl technology Case Studies

## Lallemand

Canada's Lallemand is a global leader in the development, production and marketing of yeast and specialty materials. Its Ontario-based facility specializes in inactive yeast and yeast extracts that produce large air odors during production. At the end of 2014, after numerous complaints of air odors from residents around the factory, the factory was asked by the government to stop production.

## Solution

HGI's hydroxy technology equipment for odor treatment .

## Implementation Effect

The factory can continue to produce, and the surrounding residents have not complained about air odors.



# Hydroxyl technology Case Studies

## Odor treatment in a wide range of spaces

A federally licensed medical cannabis producer with a greenhouse of more than 210 000 cubic meters in southern Ontario, Canada.

Cannabis produces a large amount of odor during the growth process, especially when the roof panel is opened/closed for temperature and humidity control, and the activated carbon filtration adsorption technique has almost no effect.

## Solution

HGI's hydroxy technology equipment was used for odor treatment in greenhouses.

## Implementation Effect

The odor problem of the air is treated, and no additional cost is required in the process.



# HGI Odorox Hydroxyl technology use in Industry



## HGI Odorox Hydroxyl technology use in Industry



# To buy or for further information

- If you would like further information, please visit <https://ohair.com.au/>
- To Purchase or to speak to the U.K. Distributor please call 01795 432640 or [wellbeing@cleverengineering.co.uk](mailto:wellbeing@cleverengineering.co.uk)



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