

# Eliminating problematic odor



**HYDROXYL IL**  
טיהור אוויר ונטרול ריחות  
SUSTAINABLE PROTECTION

Air & surface  
purification solutions



# Persistent odors exist in many industry sectors.

Odors can be generated by airborne chemicals, mold and mildew, smoking, fires and floods, industrial processes, and waste management are often a problem for the occupants of a building, be they employees, residents, or guests. Odors can also travel offsite and impact the residents of nearby communities, creating complaints and leading to fines, restrictions, and possibly shutdowns. Hydroxyl Israel delivers effective, rapid odor mitigation that can be easily installed into existing buildings and safely operated 24/7 in the presence of people.

Hydroxyl resolves odor issues across many industries:



## Facilities permitting smoking

- Casinos and other gaming facilities
- Cigar lounges
- Cruise ship casinos and bars



## Hospitality

- Mold and mildew odors in rooms
- Odor remediation between guests
- Staleness in common areas



## Garbage and waste management

- Municipal solid waste facilities
- Wastewater treatment plants
- Garbage rooms in buildings



## Other applications

- Manufacturing facilities
- Livestock operations
- Athletic facilities
- Fire remediation



# Replicating nature to deliver safe and effective cleaning.

Hydroxyl produces the same natural cleansers present outdoors in the same concentrations — ensuring effective purification of air and cleaning of surfaces in occupied spaces.

Hydroxyl treats odors from:

Mold, fungus & bacteria

Hydrogen sulfide & ammonia

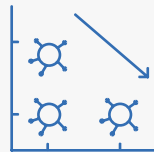
Rotting & fermenting waste

Volatile organic compounds (VOC)

Cigarette & cigar smoke

Smoke damage from fires

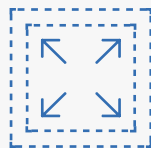
How Hydroxyl works:



Provides superior performance in reducing microbial loads in the air and on surfaces.



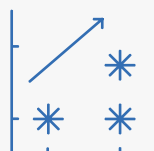
Runs continuously 24/7 while treated spaces are occupied.



Treats any size space with the same efficacy.



Delivered through an existing air handling system or installed as a stand alone solution.



Increases the effectiveness of existing cleaning and sanitation protocols, and HVAC systems.



# Proven to reduce airborne pollutants.

Controlled atmospheric studies assessed the impact of Hydroxyl on VOCs and the possible accumulation of chemical intermediates.

TVOC reduction  
after 15 hours:

↓ 59%

No accumulation of intermediates  
above background levels, including:

- Formaldehyde
- Acetaldehyde
- Other aldehydes



Hydroxyl has demonstrated significant reductions of other airborne pollutants in real-world settings:

- Hydrogen Sulfide
- Ammonia
- Ethylene
- Methane
- Non-methane hydrocarbons
- Nicotine
- Chemicals produced by fires

# Case studies

Watch this customer's video testimonial:

[pyure.com/ChurchillDowns-video](https://pyure.com/ChurchillDowns-video)

## Large smoking casino

### Problem

A large casino in a hot and humid climate was concerned about microbial contamination. The risk of COVID-19 infection was also prevalent, and there was a need to proactively clean the casino, reassure patrons, and provide a better guest experience. An independent testing lab was brought in to take air and surface samples, and they found elevated mold, bacteria and nicotine in the air and on surfaces.

### Hydroxyl impact

A Hydroxyl controlled solution was installed into the air handling system's ductwork to treat the entire casino. After five weeks of operation, the independent lab returned and took the air and surface samples again. Results showed significant reductions in the quantity of mold, bacteria, and nicotine in the air and on surfaces. The air also smelled fresher, and both staff and patrons commented on the clean smell and absence of cigarette smoke and smell.

### Customer benefit

The casino communicated to guests the steps taken to provide them with a cleaner, safer environment. These results and the fresher-smelling casino led to increased traffic and longer stays, generating more revenues for the casino and a better guest experience. Employees also reported fewer breathing related problems due to the absence of cigarette smoke.



## Cigar lounge

### Problem

A high-end cigar lounge with an exclusive clientele had a severe problem with cigar smoke and odors. Despite using HEPA + activated carbon filters, patrons and employees frequently complained. Patrons found the smoke and odor excessive, staff found working conditions difficult, and their clothes also had strong odors at the end of their shifts.

### Hydroxyl impact

Hydroxyl units were deployed, and the HEPA + activated carbon units were turned off. Staff noticed an immediate impact. Within a few days, the lounge smelled fresh in the morning, with no residual cigar smell. During the day, the cigar odor and smoke levels were significantly reduced relative to the performance of the HEPA and activated carbon filters.

### Customer benefit

Employees no longer had the smell of smoke at the end of their shifts, and certain employees with breathing and asthma problems no longer had to use their medication. The lounge saved over \$10,000 in annual HEPA + activated carbon filter replacement costs and saw a reduction in energy consumption. The payback for the Hydroxyl solution was less than 6 months, resulting in a considerably more hospitable environment for patrons and staff.



# Case studies

## Tropical resort

### Problem

A luxury resort on a Caribbean island had 170 hotel suites rented at high prices. Despite extensive cleaning protocols and high occupancy rates, the rooms would develop a musty, moldy smell that negatively impacted guest experiences. The resort would have to keep the rooms empty periodically to remediate the odors, and the persistent odors negatively impacted the resort's ability to charge premium rates.

### Hydroxyl impact

Small units were placed in each of the suites, and in the weeks that followed, the resort workers noticed that the musty, mildew odors were eliminated, and guests began commenting on the "freshness" of the suites.

### Customer benefit

The resort shortened turnaround times between guests and was able to charge higher prices for the suites due to the high level of guest satisfaction. The higher revenues generated a rapid payback on the Pyure devices, and the resort has continued to use the Hydroxyl units since, ordering replacement UV optics each year.



## Cruise ship

### Problem

A large cruise ship permitted smoking in its casino and bar, which were located in close proximity to other decks frequented by families and non-smokers. Banning smoking was not an option, given its expected impact on casino and bar revenues. Still, the cruise ship was experiencing a significant number of complaints on each cruise from non-smokers.

### Hydroxyl impact

A Hydroxyl controlled solution was installed into the air handling system supplying air to the casino and bar areas. The cruise ship experienced a significant drop in the number of complaints, and both guests and staff found the casino to be "fresher" smelling, with no cigarette odors.

### Customer benefit

The cruise ship saw revenues from the casino and bar increase significantly, and the overall guest experience on adjacent decks was markedly improved, leading to higher guest satisfaction. The incremental revenues paid for the Hydroxyl system in under 6 months.



# Case studies

## Garbage storage & compacting room - Office

### Problem

An office building with a centralized garbage room had strong odors permeating the building, causing tenants to complain. An air conditioning system installed in the garbage room had cost over \$4,000 per year in energy consumption, with limited impact on garbage odors.

### Hydroxyl impact

Hydroxyl units were installed in the garbage room, and the air conditioning units were turned off. Within a week, there was a noticeable reduction in odor, and after three weeks, the odors were mitigated, and the tenant's complaints ceased.

### Customer benefit

The building owner generated a better experience for tenants and eliminated odor complaints. The savings in energy consumption paid for the Hydroxyl solution in less than a year and helped to protect the rental value of the building.



## Municipal solid waste facility

### Problem

A significant size waste management facility treated all the municipal solid waste generated by a large, nearby city. The facility was subjected to frequent complaints from nearby communities concerning odors, resulting in frequent government fines and the threat of a shutdown.

### Hydroxyl impact

Hydroxyl units were installed in the waste reception area, where garbage trucks dumped incoming waste for sorting and treatment. Following the installation, the facility saw a 90% reduction in odor and a 25% reduction in total organic compound levels (TOC), leading to better compliance with government requirements and a significant decrease in complaints during peak odor periods.

### Customer benefit

The facility could turn off its exhaust system at night, eliminating emissions into neighboring communities while maintaining TOC and odor levels inside the plant within acceptable limits. By turning off the exhaust system, total plant emissions were cut significantly, and the consumption of expensive activated carbon filters was reduced considerably. The payback period for the Hydroxyl system was less than a year, complaints and fines were minimized, and the risk of a shutdown was mitigated.





# Case studies

Watch this customer's video testimonial:

[pyure.com/  
odor-elimination-video](https://pyure.com/odor-elimination-video)

## Dairy farm

### Problem

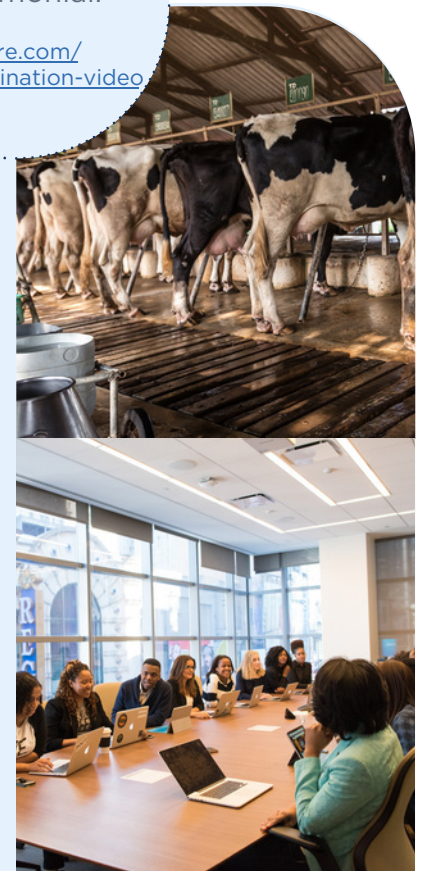
A large dairy farm with state-of-the-art equipment had a conference center adjacent to the production facility. The center had a reception area, kitchen, bar, restrooms, and business offices with 16 foot ceilings. Though the conference center had its own air handling system, it was plagued with a persistent, pungent manure smell.

### Hydroxyl impact

Hydroxyl induct devices were installed in the air handling unit to treat the entire center. Following the installation, the manure smell disappeared. While the smell outside was strong, the conference center had a fresh and odor-free smell, resulting in high guest satisfaction.

### Customer benefit

The customer could use the center more extensively and rent it out for events. Visitors commented on the absence of odors, contributing to a more positive guest experience.



## Retail store with fire damage

### Problem

A 150,000 square foot retail store had a fire in the adjacent warehouse that generated much smoke, resulting in the merchandise on the retail floor and warehouse having a strong “burning” odor. Initial remediation quotes called for a 30 day closure of the store (\$900,000 in lost sales per day) and the disposal of \$8 million in non-recoverable inventory.

### Hydroxyl impact

The store used large Hydroxyl MVP48 units to treat the main space and portable G9 units to treat specific inventory items within an area with greater damage. After 36 hours of continuous treatment, the odor was largely mitigated, and the store could open to the public and resume operations. All of the inventory was recovered.

### Customer benefit

The retailer limited the revenue losses to under \$2M, far less than the \$27M in lost revenue that would have resulted from a 30 day closure. The company also saved several million dollars in recovered inventory. With Hydroxyl, the outlet was able to open within 36 hours and continue to operate the Hydroxyl technology in the presence of shoppers, running for a total of 10 days to remove the odors completely and permanently.





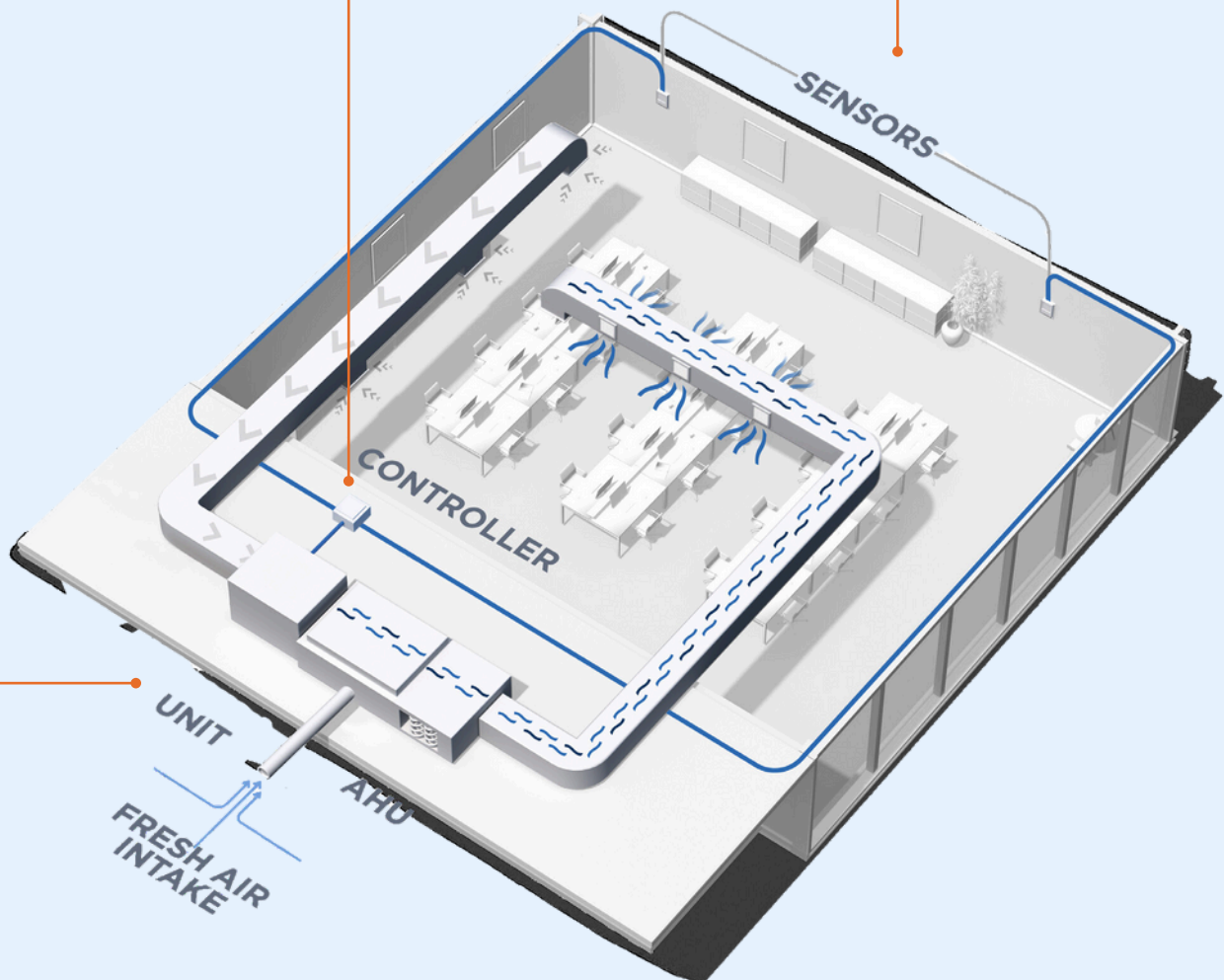


# Optimized air quality.

Our completely scalable and sensor driven systems offer customizable controls and helpful data analysis to measure and optimize performance. The Hydroxyl system continuously adjusts as the demand for purification changes over time, ensuring optimal safety, performance, and energy efficiency.

Controller responds to sensor readings and modulates the Pyure device to treat the real-time air quality.

Sensors provide real-time reading to controller.



Hydroxyl unit works with single or multiple air handling systems.

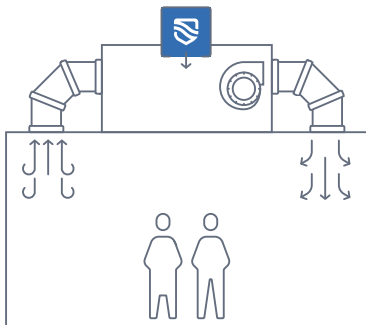


# Hassle free installation

Hydroxyl solutions can be installed with or without an air handling system.

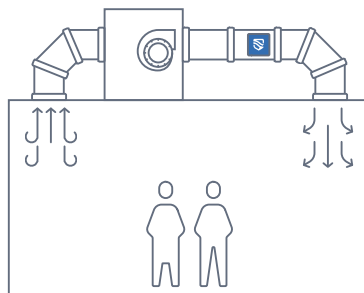
## Centralized air handling

- Large rooftop units
- Large indoor units



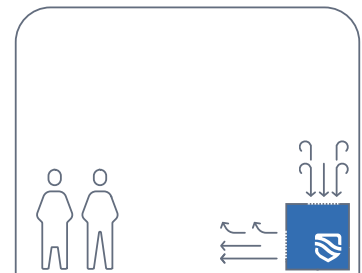
## Decentralized air handling

- Smaller units inserted in ducts throughout the building
- Wall mounted units where there is no ductwork



## No or limited air handling

- Large stand alone units with blowers
- Portable, stand alone units
- Wall mounted units



Hydroxyl makes maintenance easier.

## Little impact on existing handling system

- Minimal increase in airflow resistance
- Virtually no extra wear and tear
- Marginal impact on energy consumption

## Low frequency maintenance and a system that helps clean

- Annual replacement of UV optics and sensors
- Periodic cleaning of filters (frequency depends on the dust and oil concentrations in the air)
- Reduces the frequency and intensity of duct decontamination



# Controlled solutions.

Designed to treat even the largest of spaces, our controlled solutions work with new and existing air-handling systems. Sensor-driven with customized controls that respond to real-time data.



## Hydroxyl IDI

A versatile solution that fits into the ductwork of any air handling system. Connect with more IDI units to increase the treatment area.

TYPE: Indoor, inline with HVAC  
NOMINAL TREATMENT AREA: 3,000\* sq ft



## Hydroxyl MVP14

Integrates into a new or existing air-handling system where space is limited and provides more cleansing power than induct systems.

TYPE: Indoor, inline with HVAC  
NOMINAL TREATMENT AREA: up to 75,000\* sq ft  
BLOWER: optional



## Hydroxyl MVP24

A heavy-duty unit built with a reinforced shell suitable for outdoor applications.

TYPE: Rooftop, inline with HVAC  
NOMINAL TREATMENT AREA: up to 200,000\* sq ft  
BLOWER: optional



## Hydroxyl MVP48

Our most powerful system, the MVP48™ purifier is ideal for the largest installations.

TYPE: Indoor, inline with HVAC  
NOMINAL TREATMENT AREA: up to 450,000\* sq ft  
BLOWER: optional



## MVP controller system

Controllers modulate purifiers based on feedback from the sensor system, creating an efficient method of treating pollutants in the space.



## Sensor system

Air sensors placed throughout the environment send readings to the sensor system which provides constant real-time feedback to the control system.





# Non-controlled solutions.

The simplest to install, our non-controlled products can be added to air ducts, wall mounted or plugged into a standard outlet. Switch them on for instant air purification and surface cleaning in small to medium size environments.



Hydroxyl Mini

The Mini series is designed to fit in with its small proportions, modern design and low noise levels. This makes it ideal for cleaning and deodorizing air in offices, waiting rooms or any other small commercial space.

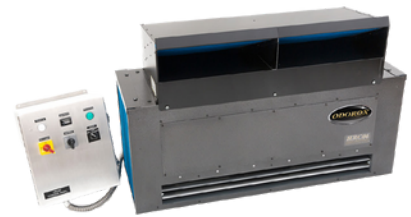
TREATMENT AREA: up to 500\* sq ft



Hydroxyl IDU

The IDU purifier is a duct mounted purifier that is easy to install and requires only an electrical connection for operation.

NOMINAL TREATMENT AREA:  
2,000\* sq ft (model dependant)



Hydroxyl HRC06

The HRC06 purifier is wall mounted and can modulate its output to purify and deodorize commercial and industrial applications.

TREATMENT AREA: up to 6,600\* sq ft



Hydroxyl Slimline

A rugged purifier with a durable exterior beneficial for public spaces and commercial or industrial installations that require a portable or wall-mounted unit.

TREATMENT AREA: up to 900\* sq ft



Hydroxyl Boss

Designed for tough environments, the Boss purifier is suited to applications like remediation following fire or water damage. It's also ideal for areas with frequent movement and contact.

TREATMENT AREA: up to 2,500\* sq ft



Hydroxyl G9

By adding an external fan to provide greater air movement, the Hydroxyl G9 purifier is ideal for spaces that have been affected by smoke, flooding, wastewater, and other air pollutants.

TREATMENT AREA: up to 3,250\* sq ft

Let's discuss a solution  
tailored to your needs  
or plan a trial.

At Hydroxyl, we're dedicated to  
finding the right solution for solving  
your challenges and delivering the  
outcomes you need.

Get in touch to find out more  
about how we can help.

[office@hydroxyl.co.il](mailto:office@hydroxyl.co.il)  
+972-74-422-2200



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11 Ha'meyasdim St., Mazor, Israel