



« Nobody needs to tell a poultry farmer about how bad ammonia is! Ammonia is bad for the birds, bad for the farmer, corrosive to equipments and just bad for the environment in general.

The question has always been what can be done about it? Now, the solution exist. »

# ODOR HUNTER

## CONTINUOUS WASHING AND PURIFICATION OF LIVING AIR

100% NATURAL and ECONOMIC PROCESS - « NEVER-STOP engine»  
*H-VAC OZONATION SYSTEM, system brevet, certified CE et ISO 9001:8, compatible ISO 14-644:8*

### ESSENTIAL SOLUTIONS ...

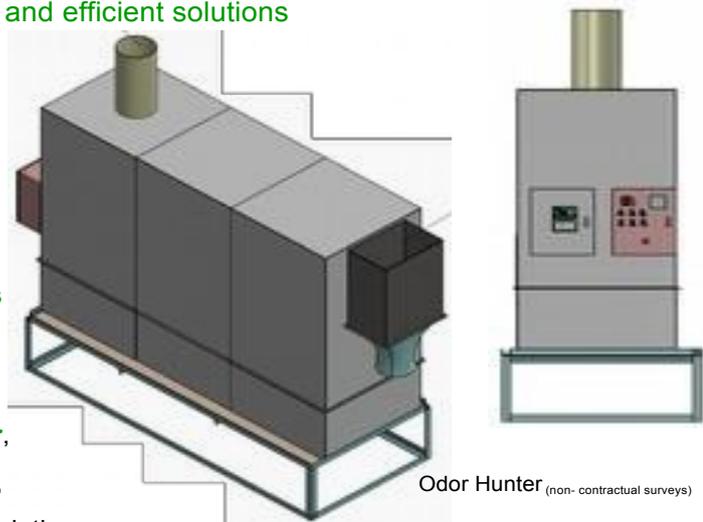
- AMMONIA (NH<sub>3</sub>) **CAPTURE** - CO<sub>2</sub> (CARBONE DIOXYDE) **CAPTURE**
- **ABSORBES** DANGEROUS GAS - **KILLS** MERCAPTANS
- **REMOVES** UNPLEASANT ODORS - **KILLS** PATHOGENIC AGENTS
- **OXIDE** ORGANIC MOLECULES - **DECREASE** DUST CONCENTRATION
- **RENEW** CONTINUOUSLY OXYGEN - MOISTURE **TRAITEMENT** by ABSORPTION

### ... FOR RESULTS THAT CHANGE EVERYTHING!

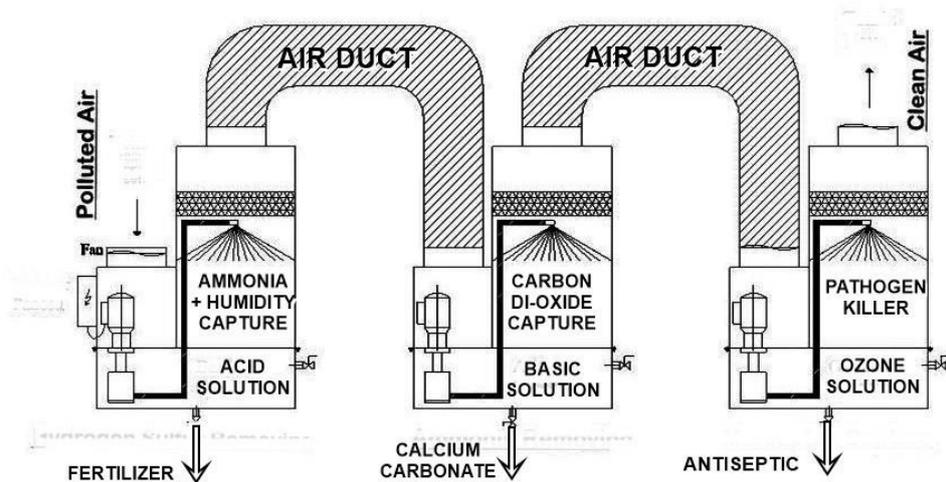
- NATURAL and NON - HAZARDOUS **REJECTS** - FERTILIZER **PRODUCTION** (AMMONIUM SULFAT) - ANIMAL FEED ADDITIVE **PRODUCTION** (CALCIUM CARBONATE) - **REJETCS** with MERCHANTABLE VALUE
- INFECTIONS **PREVENTION** by OZONIZATION - **INDUCED** DRY LITTER
- **MAKES** HYGIENIC AIR FLOW - **INDUCED** a CUT of HEATING COSTS
- **INDUCED** a LOWER MORTALITY - **INDUCED** a LOWER CONSUMPTION of MEDICAL SOLUTIONS - **GENERATE** a RETURN on INVESTMENT
- **COMPATIBLE** with ORGANIC PRODUCTION -

Kare Engineering innovates and continuously carries out its vision of linking Research and Engineering at the service of man and the living. By being an actor of the future, Kare Engineering brings new, innovative and efficient solutions

The use of **Odor Hunter** induced **better productivity** with extra weight gain in order of 100 gr. to 200 gr. per chicken, but also **better working comfort conditions** for workers due to a **more hygienic air**, **Litters are dry**, heating system is **more efficient**, **dust concentration is lower**, **prevention of infections risks** by ozonation, **decreased mortality** and reduced medical solutions use.



### Odor Hunter's operating system:



#### **Oxidation by Ozone:**

Ozone is the most powerful natural oxidant available. It is produced through an ozone generator working without adjuvants.

For example ozone action kills 99.999% of Bird Flu virus. It deactivates the virus by peroxidation of lipids and proteins. Several studies have been conducted to show its effectiveness on the H5N1 virus and its derivatives, which are very close.

#### **ISO standard certification 14-644 2013 :**

This ISO establishes the Chemical Air Cleanliness (CAC) in clean room and associated controlled environments, in terms of airborne concentration of specific chemicals.

Typically used in manufacturing or scientific research, a CLEAN ROOM is a controlled environment that has a low level of pollutants such as dust, airborne microbes, aerosol particles, and chemical vapors.

<b>Brand Name</b>	<b>ODOR HUNTER</b>
<b>System Description</b>	Air Washing and Sterilization / H-VAC type Continuous purification and sterilization of air in confined spaces
<b>Patent</b>	T.C. Patent Enstitüsü (Turkish Patent Office) date : 13.07.2010, n °: TR2010 05729Y
<b>ODOR HUNTER Certifications</b>	- CE certificate - ISO standard 9001:8 - Compatible ISO standard 14-644:8 - type « CLEAN ROOM »
<b>Principle function of ODOR HUNTER :</b>	<b>The polluted air is sucked in through the air ducts. The airflow is washed by 3 scrubbers and renewed oxygen in order to deliver a healthy and sterile air in the building :</b>
<b>1st : Ammonia Scrubber (NH<sub>3</sub>) :</b>	The polluted indoor air is washed in the ammonia scrubber (NH <sub>3</sub> ) which reacts with sulfuric acid (H <sub>2</sub> SO <sub>4</sub> ) to form Ammonium Sulfate (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> . <i>Stoichiometric equilibrium : H<sub>2</sub>SO<sub>4</sub> + 2NH<sub>3</sub> ⇌ (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub></i>
<b>2nd : CO<sub>2</sub> Scrubber :</b> (Carbone Dioxide): (maximum advisable CO <sub>2</sub> concentration : 500ppm)	At the same time sulfuric acid <b>absorbs moisture</b> and <b>makes the air dry</b> . The particles are separated from the interior and the <b>ammonia is captured</b> . The <b>rejection of ammonium sulfate</b> is a non-hazardous common fertilizer.  After the first wash, the air still polluted with carbon dioxide (CO <sub>2</sub> ) is washed with a calcium hydroxide solution (Ca(OH) <sub>2</sub> ) that <b>absorbs CO<sub>2</sub></b> to form calcium carbonate. <i>Stoichiometric equilibrium : CO<sub>2</sub> + Ca(OH)<sub>2</sub> &gt;&gt;&gt; CaCO<sub>3</sub> + H<sub>2</sub>O</i>
<b>3rd : Ozone Scrubber (O<sub>3</sub>) :</b>	Calcium carbonate is a <b>100% natural rejection</b> which can be used as animal feed additive, or food coloring (E170). It is authorized in organic production.  After the second purification, the air is <b>sterilized</b> in the ozone scrubber (O <sub>3</sub> ). Others harmful organic matters in the air such as phenols, methane and pathogens, bacteria, germs are <b>cold burnt by the action of Ozone</b> . The releases of this oxidation are carbon dioxide (CO <sub>2</sub> ), and water (H <sub>2</sub> O). There is no Ozone residue, it dissolves, Oxygen molecules (O <sub>2</sub> ) After purification by three separate scrubbers, the aspirated air is <b>transformed into clean, sterile gas</b> , and delivered into the building.

Air volume flow rate	6000m <sup>3</sup> / hour
Delivery time	Odor Hunter is manufactured in Turkey. shipped in 30 days after receipt of the firm Order and accepting the Proforma Invoice
Dimension and weight, Odor Hunter Standard dimensions: (Without aspiration, air ducts and control panel)	Length : 2 900 mm    Width : 1 000 mm Height : 2 000 mm    Total ground weight: 400kg
Shipping	Can be shipped all over the World. Conditioning : 3 Euro pallets

If you would like to take an appointment for a test of Odor Hunter or for any other inquiries please contact:



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