BAG FILTER FACILITY

1. Structure and Principle

High-efficiency membrane bag filter filters emission by sucking polluted gas into the bag filter for solid/gas separation. Particles are captured on filter surface; the frequency of the filter is controlled by a timer. Cleaning is done by shaking particles off the filter bag surface, which is enabled by injection of high-pressure air into the funnel. Dusts are collected into the barrel underneath for regular removal. Air processed through the filter is then released into the atmosphere via a suction fan.

2. Purpose

For sites of drilling, shaping, grinding, particle conveyance, mixing, stirring, incineration, chemical, cement, lime, wood shaving, painting.

3. Features

 Space saving: for the same size, the filter surface is several times more than that of conventional models. The filter is free-standing; no frames are erquired. It is also wear-resistant for longer usage life.

- (2) The surface has porous membrane for high screening efficiency to prevent dust from entering the filter for prolonged filter life. It is lighter, more resilient and more durable than conventional models.
- (3) Changing filter is simple and quick to shortens operation-halt time and in turn increases production capacity.

4. Specifications and Functions

- (1) Elastic filter head, excellent installation seal
- (2) Filter head is one-piece molded, which tightly attached to the bag
- (3) Pleated design offers optimum and even support and retains elasticity of filter fabric.
- (4) Wide-fold design allows effective particle shake-off.
- (5) Elastic pleated design enables effective flush-out function.

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- (6) The two sides are sealed with steel for effective protection of filters and support the tough base, as well as reinforcing the fastness of the filter bags.
- (7) Aero dynamic exterior design optimizes air flow and maintain minimum pressure differentiation during filtering and flushing °

5. Product Photo



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WET STATIC REACTOR FACILITY

1. Structure and Principle

This system applies DC to charge the electrode wire with negative high voltage and create an electromagnetic field between the discharge electrode and the grounding hub. It mainly utilizes anions to fuse with particle of pollutants to achieve filtering. Water is used for carrying away the pollutants collected by electrodes and sheets and maintain the reactor in optimal operating conditions.

2. Purpose

Air pollution prevention for boiler, steel industry's furnace, nonferrous refinery industry's cement kiln, glass kiln, chemical engineering industry's pigments, papermaking, painting, asphalt, DOP, incinerator, food industry, distillery, cogeneration plant, etc.

3. Features

- (1) High-efficiency, resistant to various particle properties.
- (2) No re-entrainment and bypass leakage; excellent for capturing fine particles.

- (3) Operating under dew point, small equipment, suitable for treating explosive, flammable particles.
- (4) Emission is frozen to under dew point into particles for charging and capturing to achieve the purpose of elimination.
- (5) Recovery solvent can be added to the spray water to remove gas pollutants.
- (6) Low breakdown rate, easy maintenance, high safety, low operating cost.
- (7) Equipped with demist function for steam collection.
- (8) Can be incorporated into scrubber for enhanced efficiency.

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4. Specifications and Functions

- (1) Discharge electrode: wire type, needle type, star type, cross type, fishbone type.
- (2) Hub: plate, rectangular pipe, round pipe, beehive, bar screen.
- (3) Nozzle: impact, cone, helix; cold water, hot water, steam, liquid alkali.
- (4) Capable of continuous or intermittent flushing.
- (5) Hot-air fan.
- (6) Draw fan.
- (7) Demister.

5. Product Photo



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BAG FILTER FACILITY

.1. Structure and Principle

This system uses dispersion inertial impact, shielding, and gravity to achieve dust capturing. This filter facility employs high-pressure air to continuously flush out particles without halting up operation, offering high stability and screening efficiency.

.2. Purpose

For sites with processes such as grinding, loading/unloading, mixing, stirring, particle conveyance, dry oven, dissolve tank, pharmaceutical, chemical, cement, lime. wood. powder painting.

3. Features

- (1) 99.99% particle capture rate.
- (2) Instant shake-off by jetting, meaning constant pressure loss and marginal air fluctuation for high efficiency.
- (3) To solve the problems of different factory layout and space constraints. prefabricated models have been developed for installation achieve minimum impact to ongoing works during installation.
- (4) Easy installation and maintenance.

漢揚環保機械股份有限公司

HAN YANG ENVIRONMENT CO. LTD

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LOW VOLUME MOBILE DUST COLLECTOR

1. Structure and Principle

Same as the Pulse jet dust collector, utilize the effects of diffuse inertial impact, blocking and gravity to conduct dust collecting, this dust collector uses continuous high-pressure air backwashing for bag cleaning, there is no need to stop operation while the dust is shaken down. It has stable performance and high dust collection efficiency.

2. Purpose

Used for workplaces of granular material grinding, handling, conveying, mixing, and stirring, drying furnace, melting furnace, medical, chemistry, cement, lime, woodwork, and powder coating, etc. with low air volume and large variability.

3. Feature

- (1) Dust collecting efficiency up to 99.99%.
- (2) High pressure blast of air shock, shaking down dust, thus the pressure loss is fixed, air volume change is low, and efficiency is high.
- (3) Suitable for working processes with low air volume and large variability.

- (4) Compact equipment with good maneuverability, with telescopic jib suction hood, easy to operate.
- (5) Easy to install and maintain.

4. Representative Performance

- (1) Taiwan Cheng Sheng Foundry 2019.03.
- (2) SiDen Industrial Co., Ltd 2018.09.

5. Product Photo





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PULSE AIR JET BAG FILTER

1. Structure and Principle

Particle-carrying air enters the bag filter via the inlet, passing through a stopper; at this point, heavier powders settle first, while lighter powders attach to the filter evenly; the PLC then controls the electromagnetic valve to trigger the membrane valve for input of pressurized air, which passes the venturi tube to flush the filter by shaking off powders into the collection chute, whereas the clean air passes through the filter to be released by the fan.

2. Purpose

Applicable for powder treatment and recycle at all types of factories.

3. Features

- (1) The entire facility is controlled by PLC for easy operation.
- (2) The venturi tube is specially designed to flush the filter with minimum pressure loss and large volume of air supply.

- (3) The filter bags are highly breathable with minimum wear and long usage life.
- (4) Filter change can be done from the top of the machine without having to enter the system. It is simple to remove and install for easy maintenance.

4. Specifications and Functions

- Material: structural steel sheet, stainless steel sheet, alloy sheet.
- (2) Filter material: Polyester, FRP, Nomax, Teflon, Ryton, P-84, Nylon, PP, 90%Polyester + 10%Carbon Fiber, Acrylic.

5. Product Photo



Pulse-Air-Jet Bag Filter Capacity: 5,000 m³/min.

銓風機械股份有限公司 CHUAN FENG MACHINEY CO., LTD

台中市南屯區五權西路二段 1266 巷 11 號

No.11, Lane 1266, Sec. 2, Wucyuan W. Rd., Nantun District, Taichung City, Taiwan

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E-mail: cf002@ms49.hinet.net http://www.chuanfeng.com.tw

VENTURI SCRUBBER

1. Structure and Principle

Exhaust carrying sulfur oxides and powders enter the venturi scrubber to interact with the recovery solvent. When passing through the neck, the section surface constricts and the high velocity gas pressurizes the solvent into mist to for an inertial impact for removal of the particles.

2. Purpose

Applicable for treatment of high-temperature exhaust.

3. Features

- (1) High filtration efficiency.
- (2) Recovery solvent can be recycled to minimize water consumption.

.4. Specifications and Functions

Can be customized according to exhaust properties or client requirement.

Material: Stainless steel or FRP.

5. Product Photo



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COMMERCIAL-GRADE TUBULAR STATIC VENTILATOR

1. Structure and Principle

Static filter is principally built on attraction between opposite electrodes: AC high voltage is rectified to create a static magnetic field positive and negative electrodes. Smoke is sent to the magnetic field, and ionized by positive and negative electrodes for um smoke to attach to tube wall in forming a liquid layer, which then flows down to the chute for collection. The process solves the problem of grease smoke, and contributes to environmental. protection.

2. Purpose

Prevent public hazard and environment pollution; enhance working environment quality; recycle valuable substances.

3 Features

It is designed to eliminate grease smoke produced in commercial kitchens according to specific requirement. The device is engineered for high static strength and low power consumption with 99.9% elimination efficiency. It is a complete solution for air pollution and recycling.

銷信工程有限公司 YEOU HSIN ENGINEERING CO., LTD

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PIPE TYPE ELECTRO-STATIC PRECIPITATOR

1. Structure and Principle

Static filter is principally built on between attraction opposite electrodes: AC high voltage is rectified to create a static magnetic field positive and negative electrodes. Smoke is sent to the magnetic field, and ionized by positive and negative electrodes for µm smoke to attach to tube wall in forming a liquid layer, which then flows down to the chute for collection. The process solves the problem of grease smoke, and contributes environmental to protection.

2. Purpose

Prevent public hazard and environment pollution; enhance working environment quality; recycle valuable substances

3. Features

For screening off particles, and removal of smoke, grease mist, acid mist of various industries

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HIGH-PERFORMANCE STATIC GREASE SMOKE PROCESSOR

1. Structure and Principle

This static grease smoke filter employs the physical property of charging particles to create diameter swelling and achieve the propose of filtering. Grease smoke shrouded by the shield and sucked through the windpipe via a negative pressure crated by the fan at a speed of 5-8M/S in the chamber. The front mesh filter evenly channels the flow to the separation area. The first electrode is pressurized to inducer the wire to fizz and charge the exhaust particles, which in motion attaches to the second polarized sheet of the opposite current. With excellent capture efficiency, grease deposit accumulates and drops into the collection chute. The capturing plate should be cleaned very 1~5 weeks pending upon frequency of use.

2. Purpose

Bolster filtration of hot air and grease smoke produced in restaurant cooking; prevent grease captured on the shield from dripping back into food; improve air quality in work environment: reduce accident. occupational hazard and fire enhance work occurrence: environment safety and hygiene; reduce machine and factory cleaning cost; increase work efficiency

3. Features

- Available in mono- and multi-section plate, and varied pipe lengths to suit different needs; filtration efficiency over 98%.
- (2) Low power consumption, low pressure loss from resistance; spray-cleaner can be added for different models to save labor costs.
- (3) The operate/control system can be designed in PNP or SCR. It is equipped with stable voltage, and current; frequency adjustment control; simple operation.

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4. Specifications and Functions

- Machine and polarized wires, plates can be made of SS400, aluminum plate, argon plate SUS304, SUS316 stainless steel. Models available in mono, multi-section sheets and varied pipe lengths
- (2) Forspecification, there are manual and auto-clean polarized plates.
- (3) Standard models' capacity: 50-1,000cmm.
- (4) Industrial models' capacity: 50-5,000cmm.

5. Product Photo



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DUST COLLECTING SYSTEM T



1. Structure and Principle

There are main two types of collecting system, which is cyclonic type and bag filter. The priniciple of cyclonic type is Centrifugal force. And bag filter use many bags to filter the fine powders

2. Purpose

In some industries, there's must be some sawdust or fine powder occurs druing production, such as furniture factory, sawmill, painting factory, ink factory.... To avoid inhalation by working staff and also environmental protection. Collecting sytem is good for air pollution control.

3 Features

The blade of industrial fan has been improved and re-design. The pipe of collecting system is produced by customer's actual demand. That all increase effciency of whole system.

4. Specifications and Functions

No matter cyclonic system or bag filter system (auto opti flow conveyor avaliable), we all design and build for customer by their factory size.

5. Representative Performance

- (1) Lacquer Craft MFG group in China.
- (2) Latitude Group in Malaysia, Vietnam and Thailand.
- (3) Shing Mark group in China and Vietnam.
- (4) HOPMA 2020.

6. Product Photo





7. Award (Certification) Project

The product was certified the award from IDB for environmental protection equipment application benchmark in 2020.

總昌機械股份有限公司

TSUNG CHANG MACHINERY CO., LTD

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ACTIVATED CARBON ABSORPTION DEVICE

1. Structure and Principle

After the filtering net filters the dust powder at the preceding process, activated carbon is then used to absorb organic agent and adores with a wide absorbing surface. After passing through absorption by the activated carbon, the clean air can then be discharged to the air purifier to the flue before releasing.

2. Purpose

Chemical industry, painting & coating industry, plastic industry, paints production flow and various circles.

3. Product Photo



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FLUE GAS DESULFURIZATION SYSTEM

1. Structure and Principle

Waste-gas enters from bottom into the cyclone dust gatherer and mixed with treatment liquid to remove smoke dust, SOx, NOx. Waste gas passes through the through Venturi washer in a down-up direction for absorption reaction. This system uses different treatment chemicals for absorption reaction to achieve air quality that is compliant with release standards.

2. Purpose

Various industries, plants, and exhaust gas from chimney.

3. Features

- One system with two units to reduce costs of equipment purchases.
- High performance for dust removal, desulfurization, and deodorizing.
- (3) Automatic chemicals feeding low operation cost.

4. Specifications and Functions

Specifications vary according to the field operation environment. Different designs are tailored for different pollutants, Material quality SUS304, SUS316, PP, FRP, PVC, galvanize, SS400... etc.

5. Product Photo



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WET SCRUBBER

1. Structure and Principle

Waste gas goes through the down-below scrubber to enable absorption in the reversing direction achieve the purpose neutralizing. After which, the gas is separated into gas and liquid. Purified gas is then discharged into the atmosphere. The cycle liquid can added with an auto chemical supply System for recycled use to minimize the problem of water pollution.

2. Purpose

Chemical engineering/electroplating industry and improvement on all waste gas and oil dust with acid and alkaline, and reducing the odor production.

3. Features

- May coordinate overall factory planning to design a system for the needed process volume.
- (2) Simple structure; low breakdown rate, easy maintenance.
- (3) Low setup cost and low service cost.

- (4) Available in the single stage or the multistage type chemical absorption designs.
- (5) The process chemical can be recycled and reused to saves water and minimize wastewater discharge.
- (6) Completely automated control, does not need the personnel attention.

4. Specifications and Functions

- (1) Material quality: SUS304, SUS316, PP, FRP, PVC, galvanize, SS400... And so on.
- (2) Specification varies according to the field operation environment and the nature of pollutants.

5. Product Photo



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HIGH-TEMPERATURE WET DESULFURISATION EXHAUST AND DUST-COLLECTOR SYSTEM (WET CENTRIFUGAL TREATMENT TANK + VENTURI GAS REACTOR + DEACIDIFICATION FEED SYSTEM + WET FILLER REACTOR)

1. Structure and Principle

The system consists of a wet centrifugal treatment tank, Venturi gas reactor and wet filler Reactor.

The system utilizes centrifugal force of the wet centrifugal treatment tank to fully mix the induced exhaust with the recovery solvent to achieve binding and remove SOx, NOx, HCl, fluorides and partial dust and heavy metals. This system further employs the 100% heat exchange capability of the wet centrifugal treatment tank to reduce exhaust temperature to cut down the initial equipment cost for the second-half of this system.

The exhaust from the first treatment tank is inducted into the gas reactor; the exhaust flow and spray are designed to form a straight angle, and, through the high-velocity collision theory, captures particles under 0.5 μ . It is capable of capturing 90% strong of particles under 1 μ . The wet filler Reactor of this system consists of a treatment tank, circulation tank, circulation pump,

filler, high-pressure nozzle, demister, chemical feeder, chemical tank, pH controller, ORP controller and liquid level controller, and where necessary (pertaining to environmental protection law), essential auxiliary equipments may be fitted according to the properties of the pollutants.

The waste-air exhausted from the Venturi is then inducted to the wet filler Reactor, and via the filler's structure. disperses porous recover solvent for maximum exposure to achieve the purpose of separating, capturing The liquid flow rate is neutralizing. determined according the properties of the waste-gas. Then, HOG coefficient is calculated from the curve to determine the depth of the filler layer, and the pressure loss at filler layers is also calculated to serve as the basis for fan selection.

2. Purpose

It is designed to remove SOx, NOx, HCl, fluorides and partial dust and heavy metals from exhaust produced by high-temperature combustion.

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3. Features

- (1) Capable of processing high-temperature gases with moisture content.
- (2) Capable of neutralizing dry and high concentration exhaust that are prone to explosion and ignition.
- (3) Powerful wetting capability.
- (4) Large-flow nozzle keeps from blockage to prevent compromises in treatment efficiency.
- (5) Flexible selection of filler and quantity to accommodate different industries and waste-gas properties for optimal treatment efficiency and equipment cost saving.
- (6) The discharge end is fitted with a gas/liquid separator capable of eliminating moisture particles over 10 μup to 95% to reduce loss of circulation water.
- (7) Low cost and easy operation.

4. Specifications and functions

The system is designed for exhaust volume derived from mass energy balance calculation and combustion temperature; hence there is no set specification. The measurements of the equipment and specifications of auxiliary equipments are based on the numeric data of the designs. Materials used are SUS 304, 316 or 316L grade.

5. Product Photo



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WASTE INCINERATOR'S DUST -GATHERING AND TREATMENT SYSTEM (COOLING TANK + DEACIDIFICATION TANK + PULSE FABRIC FILTER

1. Structure and Principle

The system consists of a cooling tank, deacidification tank, activated carbon injector, pulse fabric filter, pipeline system and other essential equipment. High-temperature exhaust from a waste incinerator contains acidic substances, dust particles and dioxin that requires cooling, liquid alkaline, activated carbon injection systems and bag-filter type fabric filter to process the particles, gas pollutants, and dioxin. Processed air is drained by the fan to the stack for release.

The system is a semi-dry deacidification and dust removal system that operates on the theory as follows:

A vaporizer is employed for ratio control to reduce the exhaust inducted into the cooling tank to the set temperature; then the vaporizer turns the recovery solvent into mist of tens of μ diameter water droplets, which are then used for neutralizing the exhaust in the deacidification tank. Given the high exposure surfaces, the substance transformation and heat conduction rates are excellent.

In heat conduction, the droplets' temperature rises from absorbing the exhaust heat. and in substance transformation. acidic gases subjected to the gas/liquid interface for absorption. whereas the droplets' content moisture are gradually evaporated through heat absorption.

By this time, the droplets reached the tank bottom, and the water content would have been entirely evaporated and turned into powder to achieve wastewater treatment. The powders derived are partially released from the tank bottom, and the remainder is left on the fabric filter. Besides gathering powder dust, the fabric filter can further react with the pollutants remaining in the exhaust via the active recover solvent to achieve maximum overall system-processing efficiency.

In addition to injecting activated carbon the process between deacidification tank and the fabric filter, the activated carbon injection dioxin system can also reduce discharge to meet with legal requirement.

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2. Purpose

It is designed to remove SOx, NOx, HCl, dioxin, fluorides and partial dust and heavy metals from exhaust produced by high-temperature combustion

3. Features

- (1) Precision mass and energy balance calculation determines the exhaust volume produced from waste combustion and the auxiliary fuel combustion.
- (2) PLC fully automatic control and on-line monitoring.
- (3) Temperature control is enabled by a ratio-type control valve and 2 fluid nozzles to set precise water volume and achieve vaporization.
- (4) The entire system operates at a temperature above acid emergence point that prevents equipment corrosion.
- (5) The cooling water is completely evaporated to preclude the need for wastewater treatment.
- (6) The treatment process is capable of eliminating dioxin to meet legal standards together with removal of other pollutants.

4. Specifications and Functions

This system is designed for exhaust volume derived from mass energy balance calculation and combustion temperature; hence there is no set specification. The measurements of the equipment and auxiliary equipment specifications are based on the numeric data of the design, Materials used are SUS304 or SS400 grade.

5. Product Photo



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WET DESULFURIZATION AND DEODORISATION SYSTEM (WET FILLER REACTOR + ACTIVATED CARBON DEODORISER)

1. Structure and Principle

The system is a complete facility designed according to requirement of specific gas and organic release. It comprises a wet filler reactor, tank proper, circulation tank, circulation pump, filler, high-pressure nozzle, demister, solvent feeder, solvent tank, pH control system, ORP control system and liquid level controller.

The deodorizer is designed with recovery material according to exhaust properties to enhance filter performance. Properties of gases are taken into account when designing the flow rate and fitting the primary mesh filter/catalyst filter to enhance the capture rate.

2. Purpose

The equipment has extensive application in cleaning hazardous and odorous gases from manufacturing, sewage treatment plants to incineration plants.

- (1) Treatment of exhaust from refuse landfill seepage tank,
- (2) Treatment of exhaust from sewer, catchments,
- (3) Treatment of exhaust from incinerators.
- (4) Treatment of organic gases from various petrochemical processing,

(5) Array of toxic gases including H₂S, SOx, HCl, Cl₂ HF, SF and neutralization of putrid gases.

3. Features

- (1) Capable of treating high-temperature and moisture-carrying gases.
- (2) Capable of neutralizing dry and highly concentrated exhaust susceptible to explosion and ignition.
- (3) Powerful hydrating capacity.
- (4) Large-flow nozzle prevents clogging that may hinder performance efficiency.
- (5) Filler type and volume are selected according to industry and exhaust properties to ensure maximum treatment efficiency and reduce initial setup cost.
- (6) Gas/liquid separator is fitted at the outlet, which is capable of removing over 95 % of 10 μ droplets to cut circulation water loss.
- (7) The filter surface of the charcoal reactor may be determined according to exhaust properties for minimization of wastes.
- (8) The two-section filter design for treating hazardous and odorous gases cuts down the frequency for charcoal replacement operating cost.

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(9) Charcoal replacement does not require personnel to enter the reactor; it can be pulled out directly from outside to prevent accidents.

4. Specifications and functions

- (1) Material of tank proper: For high-temperature gases, the material can be SUS304, 316, 316L grade stainless steel, SS400 rustproof treated and spray-painted. For acidic and alkaline gases: PP \ PVC, PE
- (2) Charcoal deodorizer: The tank and interior framework are made of SUS304 or SS400 rustproof treated and spray-painted.
- (3) Filler material: can be SUS 304, PP, and PVC according to exhaust's physical properties.

5. Product Photo



千增股份有限公司 CHIAN TZENG CO., LTD.

桃園市龜山鄉區專一街 78 號 No.78, Chazhuan 1st St., Guishan Dist., Taoyuan City, Taiwan TEL:+886-3-359-4725 FAX:+886-3-359-4727

WET PACKING REACTOR

1. Structure and Principle

Wet filler reactors are widely used for cleaning hydrophilic exhausts; the only recover solvent required is easily- accessible water, which may also be recycled. These features make the system the most reasonably priced and easiest to operate and maintain among all environmental protection equipments. It incurs hardly any cost for wear parts.

This equipment consists of a tank unit, circulation tank, circulation pump, filler, high-pressure nozzle and demister, and where necessary suitable chemical may be added according to the exhaust's physical properties to enhance treatment efficiency.

2. Purpose

- (1) Soluble (hydrophilic) gases.
- (2) Liquid particles.
- (3) Solid particles.
- (4) Odors.

3. Features

- (1) The equipment is capable of processing high-temperature and water-containing gases.
- (2) It is capable of minimizing explosion from overtly dry state or flammable dust gases.
- (3) High wetting capability
- (4) The equipment's own pressure loss is lower than 50mmAq that greatly slash the initial setup cost of suction fan.

- (5) Large-volume nozzle prevents blockage that can affect treatment efficiency.
- (6) The circulation tank is designed with two-section filter to reduce impact on the pump.
- (7) Filler and its volume are selected according to industry and exhaust properties to bolster treatment efficiency and reduce initial setup costs.
- (8) The discharge end is fitted with a gas/liquid separator capable of eliminating over 95% of water droplets over 10 μ to reduce water circulation loss.

4. Specifications and Functions

- Reactor Material: For high-temperature gases, the material may be:SUS304, 316, 316L grade stainless steel: SS400 rustproof treated and spray painted.
- (2) Filler material may be SUS304, PP or PVC according to exhaust properties.

5. Product Photo



干增股份有限公司 CHIAN TZENG CO., LTD.

FLUE GAS DRY FGD SYSTEM

1. Structure and Principle

Dry FGD System comprises a centrifugal reactor, a high temperature ducting, a bag house, a main exhaust fan, and an adsorption powder injection system.

The waste flue gas and the adsorbent piping are connected to the centrifugal reactor at tangential direction to obtain perfect mixing and adsorption efficiency. The airflow then leads to an acid/ heat resistant bag house to remove the dust and fume. Meanwhile the powder cake on the bag surface will adsorb the acid once again while filtering.

This FGD system equipped with auto temperature and static pressure control, ensures stable operation of furnace.

2. Purpose

For Treatment of All Kinds of Flue Gas

Remove: Fume, Dust, Dioxin, Sox, HCl, Nox, Fluoride, Mercury, H3BO4, etc.

3. Features

- (1) All Pollutants Removed Simultaneously.
- (2) Economic System
 Arrangement for High
 Control Efficiency.
- (3) Simple Machinery for Easy
 Operation and
 Maintenance.
- (4) Over Dew Point Operation, No Corrosion Occurred.
- (5) No White Smoke Exhausted.
- (6) Discharge Dry Dust, No Sludge, No Waste Water.

4. Product Photo



台灣公害處理工程股份有限公司

TAIWAN ENVIRONMENTAL ENGINEERING CO., LTD.

新北市中和區連城路 258 號 15 樓之 4

15F-4, No. 258, Lian-Cheng Rd., Chung-Ho District, New Taipei City, Taiwan

SEMI-DRY & WET FGD SYSTEM

1. Structure and Principle

Utilize semi-dry or wet scrubber method to achieve cooling, de-dust, and neutralization for high temperature exhaust flue gas. The flue gas normally contains fume, dust and toxic gas.

This system is designed to comprise several of following equipment, depends on the quality of flue gas.

- (1) Spray Tower.
- (2) Cyclone Scrubber.
- (3) Turbulent Scrubber.
- (4) Venturi Scrubber.
- (5) Packed Tower.
- (6) Bag House.
- (7) Electrostatic Precipitator.

2. Purpose

Semi-Dry or Wet Treatment for All Kinds of Flue Gas.

Remove: Fume, Dust, Dioxin, Sox, HCl, Nox, Fluoride, Mercury, H3BO4, etc.

3. Features

- (1) All Pollutants Removed Simultaneously.
- (2) No Fire & Explosion Risk by Wet System.
- (3) Low Initial Cost.
- (4) Needs Careful PH Control to Maintain Good Efficiency and Avoid Corrosion.
- (5) Might Exhaust Water Vapor (White Smoke) at Tail Gas.
- (6) There Might Be Waste Water From The System.

4. Product Photo



台灣公害處理工程股份有限公司

TAIWAN ENVIRONMENTAL ENGINEERING CO., LTD.

新北市中和區連城路 258 號 15 樓之 4

15F-4, No. 258, Lian-Cheng Rd., Chung-Ho District, New Taipei City, Taiwan

WASTE VOCS OXIDATION RTO & HEAT RECOVERY SYSTEM

1. Structure and Principle

RTO Components:

- (1) Twin Bed of Low Pressure Ceramic Heat Media.
- (2) Combustion and Oxidation Chamber with High Density Insulation.
- (3) Two Inlet Plenums with Puppet Valves for Rapid Flow Direction Control.
- (4) Pre-Piped Fuel Train with NGI System.

The VOCs laden waste air enters "A" ceramic bed to be preheated, then passes through the central combustion chamber where VOCs are oxidized into CO₂ and H₂O, and exits into "B" bed where combustion heat transfer from the hot gas back into the ceramic. The gas flow direction is auto controlled to maintain an even temperature profile between the twin beds.

An additional Heat Recovery System can be specially designed for high concentration VOCs exhaust process, such as coating process, etc. After the waste VOCs is decomposed completely by a fuel-free RTO, the hot exhausted gas will be led to a Heat Recovery System. This Heat Recovery System employs Air/Liquid heating media for

Direct/Indirect contact heat transfer. Almost all the heat energy of waste VOCs can be recovered and back to the plant process.

2. Purpose

- (1) Treatment for all kinds of VOCs & Odors exhaust.
- (2) Specially designed to be applied to the high VOCs exhaust industries. such as coating processes, drying process, heating process, etc. The additional combustion heat can be recycled by a Heat Recovery System. Not only eliminates the VOCs pollution problem, but also recovers heat energy, saves the plant fuel cost.

3. Features

- (1) Oxidation Temperature at 800 ~ 1,000 °C, VOC Destruction Efficiency Over 99 %.
- (2) Fuel Free Operation at Inlet VOC Lording Over 3 % LEL (about 450 ppm).
- (3) Low Pressure Drop Ceramic Media with 95 % Heat Recovery.

台灣公害處理工程股份有限公司

TAIWAN ENVIRONMENTAL ENGINEERING CO., LTD.

新北市中和區連城路 258 號 15 樓之 4

15F-4, No. 258, Lian-Cheng Rd., Chung-Ho District, New Taipei City, Taiwan

- (4) Positive Pressure Operation and NGI System, Ensures Process Line to Maintain A Stable Static Pressure
- (5) PLC Auto Controlled, Remote On Line Service Diagnostics.
- (6) Flameless VOC Oxidation, No NOx Occurred.
- (7) Puppet Valves for Rapid Air Direction Change, Within 0.7 Second.
- (8) Auto heat recovery control by pneumatic high temperature damper.
- (9) Reduces fuel expense, provides a most economical manufacturing process.

4. Product Photo



台灣公害處理工程股份有限公司

TAIWAN ENVIRONMENTAL ENGINEERING CO., LTD.

新北市中和區連城路 258 號 15 樓之 4

15F-4, No. 258, Lian-Cheng Rd., Chung-Ho District, New Taipei City, Taiwan

ACTIVATED CARBON ADSORPTION SYSTEM

1. Structure and Principle

The equipment mainly employs activated carbon to adsorb toxic gases and odors; aluminum fibers and non-woven filter are utilized for screening off particulates that makes it an excellent purifying system.

2. Purpose

For benzene, toluene, carbon tetrachloride, sewage odor, etc.

3. Features

- (1) Capable of removing particles from air flow, and adsorbing hazardous pollutants in air.
- (2) Modular design requiring small space; simple structure reducing breakdown rate.

- (3) Employing multi-mix charcoal's physical and chemical adsorbing properties for effective treatment of corrosive, odorous and toxic gases.
- (4) Effectively clean particulates under $1\mu m$.
- (5) VOC can be completely eliminated without leaving odor.

4. Specifications and Functions

Customized design to meet environmental requirements.

5. Product Photo



光騰工業科技股份有限公司

EASTON ENGINEERING INTERNATONAL CORP.

新北市三重區重新路五段 609 巷 14 號 7 樓之 9

7F-9, No. 14, Lane 609, Sec. 5, Chung Hsin Rd., San Chung District, New Taipei City, Taiwan

TEL: +886-2-2999-5763 FAX: +886-2-2999-5764

E-mail: easton99@ms21.hinet.net http://www.easton-eng.com.tw

WET GAS SCRUBBER

1. Structure and Principle

Contaminated air contact the fluid, which absorbs, neutralizes some of the hazardous elements in the air, and clean particles also.

2. Purpose

For processing various industrial exhausts and particle pollutants.

3. Features

The process covers cooling, wetting, screening and absorbing.

For some gas pollutants, wet absorbing/screening can produce or recycle useful chemical substances.

4. Specifications and Functions

Customized according to environment.

5. Product photo



光騰工業科技股份有限公司

EASTON ENGINEERING INTERNATIONAL CORP.

新北市三重區重新路五段 609 巷 14 號 7 樓之 9

7F-9, No. 14, Lane 609, Sec. 5, Chung Hsin Rd., San Chung District, New Taipei City, Taiwan

TEL: +886-2-2999-5763 FAX: +886-2-2999-5764

E-mail: easton99@ms21.hinet.net http://www.easton-eng.com.tw

FANS

1. Structure and Principle

Years of research and experiment have enabled a type of design that minimized turbulence at fan input and output, which in turn diminishes noise and bolsters efficiency.

- (1) Shield: The device can effectively convert air pressure from the wide-wheel, and a thick steel plate is employed to fully prevent vibration and noise and strengthen its rigidity.
- (2) Wide-wheel: The design bends backward, and the curve radius, outlet angle, and inlet angle are coordinated with the shield dimensions. The dynamic is calibrated for optimal balance.
- (3) Axle: Premium carbon steel is used to assure against vibration.
- (4) Bearing : NSK bearing is selected for operation safety. All parts are precision made for durability.

2. Purpose

- (1) For boiler blowing and draining.
- (2) For dust draining and collection at grinding, powder manufacturing plants.
- (3) For ventilation at micro-dust worksites.
- (4) Powerful ventilation for chemical plants.

- (5) Air conditioning of buildings.
- (6) Cooling and ventilation of machinery.
- (7) Hot air circulation and emission.

3. Features

- (1) Comes with low, middle and high switches for varied wind volume and pressure.
- (2) Solid structure, economical and durable.
- (3) Outlet direction can be designed according to site requirement.
- (4) Accommodates dust filters.

4. Specifications and Functions

- (1) Dynamic curve: As the wheel bends backward, it is endowed with the feature of "limited loading", yet motor can be selected to meet specific requirement.
- (2) Air volume, static pressure: The overall operation is very stable, enabling high efficiency for industrial operation and chemical manufacturing.
- (3) Yield and parallel operation: As the wheel bends backward, there is marginal yield impact, and hence enabling parallel operation for optimal efficiency.
- (4) Noise: High-performance but noise-free operation.

兩昌股份有限公司 LIANG CHANG CO., LTD.

南投縣草屯鎮中正路 1776 巷 8 之 6 號

No. 8-6, Lane 1776, Chung Cheng Rd., Tsaotun Town, Nahtou Hsien, Taiwan TEL: +886-49-256-6935 FAX: +886-49-256-3653 E-mail: yishuenn@ms38.hinet.net

TURBINE FAN

1. Structure and Principle

Following the laws of nature - hot-air ascents/cold-air descents. Wind drives the waterproof arch blades and solid turbine acceleration blades, which withstands 120 miles per hour of wind velocity to drive out hot air, odor, humidity, smoke, mist, steam and pollutant, and bring in fresh air to keep the interior fresh and comfortable as well as prolong lifespans of production machineries, materials and buildings.

2. Purpose

Drain and dissipate heat, ventilation.

3. Features

- (1) One-piece assembly of stainless steel.
- (2) Require no power, offering energy saving.
- (3) No limitations to installation location.
- (4) Special patented waterproof design.

4. Specifications and Functions

Made with SUS304 grade corrosion-resistant stainless steel, standard arch blade design, sealed gaps, designed for rain to drain off blades without leaking indoor. Simple installation, no operating noise, no operating cost.

ACID/ALKALI RESISTANT FAN

1. Structure and Principles

Runner blades are designed in the back-leaning structure and the axial drive serves as a constant load device; therefore, there is no worry about motor overload. It is mainly consists of blades, a shell, driver mechanism, and supporting mechanism. Its theoretical efficiency is high and is applicable to a wide range of air exhaust and blowing purposes.

2. Purpose

It is applicable to a wide range of industries that have needs to convey acid/alkaline gases; ex: electronic, plating, petrochemical, and surface treatment industries

3. Features

- (1) It was development through a joint venture with the Mechanical Industry Research Laboratories of the Industrial Technology Research Institute.
- (2) The blades, shells, and protective accessories are made of FRP; therefore, they have good anti-acid/alkaline and anti-corrosion qualities.
- (3) Certified by AMCA experimental test Its efficiency is as high as 74.76%, which enables the users to save a large amount of operating costs.

- (4) Patented oil-bath axle design upgrades the usage life of the axle.
- (5) Over Lap design for the vent opening prevents back-flow and leakage loss.
- (6) The shell is covered with special FRP to enhance its anti-UV function.

4. Specifications and Functions

- Process volume 50 ~ 2,800 cmm.
 Press still pressure 25 ~ 800 mmAq.
- (2) Exterior specifications: Please refer to the catalog.

5. Product photo



6. Award (Certified) Items

Taiwan Environmental Manufacturers Association certified the product for environmental protection quality standard in 2000.

恆馳國際股份有限公司 FANSYS CO., LTD.

桃園市蘆竹區南山路一段90巷1之1號

No.1-1, Ln. 90, Sec. 1, Nanshan Rd., Luzhu Dist., Taoyuan City, Taiwan, TEL: +886-3-322-7966 FAX: +886-3-322-8624 E-mail: fansys@seed.net.tw

FRP SCRUBBER

1. Structure and Principles

This system transmits contaminants in gas into liquid through gas/liquid contact and then separates clean gas from the liquid containing contaminants to achieve cleaning.

2. Purpose

It is suitable for all types of acid/alkaline gas generated in various industrial production processes.

3. Features

The body of the tower is made of special anti-UV FRP and the smooth reflective exterior surface further increases the usage life of this product.

4. Specifications and Functions

- (1) Gas process volume: 50~1800cmm.
- (2) The unit is design as a vertical type-washing tower; horizontal type is also available upon request for customization.

5. Product Photo



恆馳國際股份有限公司 FANSYS CO., LTD.

ACTIVITY CARBON DEODORIZER

1. Structure and Principle

This system uses the absorbability of activated carbon to conduce organic waste gas. After absorbed by activated carbon, the treated air is then discharged into the atmosphere. For waste gases of various properties, an initial filter can be install in front of the activated carbon to reduce clogging.

2. Purpose

It absorbs organic waste gas and odor.

3. Features

- (1) It is use to twitch for primary filter net
- (2) Activated carbon filters are fed form top and removed from the side and for easy replacement.
- (3) It's can also be use on other pollution control equipments.

4. Specifications and Functions

Capacity : $10 \sim 400 \text{ m}^3/\text{min}$.

5. Product Photo



高幟通風工程股份有限公司

GOLDEN FLAG VENTLATION IND CO., LTD

台中市南屯路二段 860 巷 37 號 No. 37, Lane 860, Nantun Rd., Sec. 2, Tachang City, Taiwan TEL: +886-4-2389-8928 FAX: +886-4-2389-9053

E-mail: wisdomsales@goldengroups.com http://www.goldengroups.com

TURBO FAN

1. Structure and Principle

This system uses backward-leaning wind wheel, the material is a steel plate, and an acid-proof F.R.P.cover can be placed over the blades.

2. Purpose

Air conditioner, ventilation, and all kinds of air pollution control equipment.

3. Features

This product is strong and durable. Every fan is tuned for balance and has long usage life.

4. Specifications and functions

- (1) Capacity: 10~□2,500 m³/min.
- (2) Static pressure: 100~1,500mmAq.
- (3) Power: $1\sim300$ hp.

5. Product Photo



高幟通風工程股份有限公司

GOLDEN FLAG VENTLATION IND CO., LTD

台中市南屯路三段 860 巷 37 號 No. 37, Lane 860, Nantun Rd., Sec. 2, Tachang City TEL: +886-4-2389-8928 FAX: +886-4-2389-9053

E-mail: wisdomsales@goldengroups.com http://www.goldengroups.com

PACKING WET SCRUBBER

1. Structure and Principle

The basic design of this wet scrubber is to transfer those fumes into water through contacts between the waste gas and water or solution. Surface area provided by various packing offers a basis for inducing interaction between the liquid and the gas. The air or gas enters the bottom of the tower and receives a preliminary washing as the scrubbing liquid drains in an opposing flow from the packed and irrigated bad. This liquid, which is pumped into the top of the tower. flows down over the packing bed and covers the surface areas of the packing with a liquid film to accomplish the work of collection. Finally, the airstreams pass through a mist eliminator section before it is released

2. Purpose

(1) PCB manufacturing-Plating, Pickling, Dipping, Anodizing, Etching, etc.

- (2) Plating Industries-Plating, Pickling, Dipping, Anodizing, Etching...etc\Pharmaceutical Plant-Grinding, Filling, Screening operation.
- (3) Chemical Industries and Food Industries.
- (4) All kinds of boilers and incinerators.
- (5) Machinery manufacturing-Oil mist.
- (6) Dust contained gas and combustion waste gases from various sources Odder removal.

3. Features

- (1) Highest absorption dust removal efficiency.
- (2) No moving parts in the mechanism, requiring minimum maintenance.
- (3) Various kinds of construction materials are available needs of various operations.
- (4) Constant and small pressure drop allows large air volume.
- (5) Widely applicable for various industries.

4. Specifications and Functions

_															
	A	В	С	D	Е	F	G	Н	I	J	L	d1	d2	d3	d4
PA-20	500	500	1,200	1,800	800	75	250	3,075	300	600	4,850	180	50	50	25
PA-30	600	600	1,200	2,000	800	75	300	3,075	350	1,000	5,300	240	50	50	25
PA-50	800	800	1,500	2,500	1,000	75	350	3,075	400	1,000	5,550	300	65	50	40
PA-80	1,000	1,000	1,800	3,000	1,000	100	400	3,300	500	1,000	5,900	300	80	65	40
PA-110	1,200	1,200	2,000	3,000	1,000	100	450	3,300	600	1,000	6,000	360	80	65	40
PA-150	1,400	1,400	2,000	3,500	1,000	100	540	3,350	700	1,000	6,150	480	80	65	40
PA-200	1,600	1,600	2,000	4,000	1,000	125	600	3,625	800	1,500	7,050	480	80	65	40
PA-260	1,800	1,800	2,500	4,000	1,000	125	635	3,625	900	1,500	7,150	600	100	80	50
PA-310	2,000	2,000	2,500	4,500	1,200	125	720	3,700	1,000	1,500	7,525	600	100	100	50
PA-450	2,400	2,400	3,000	4,500	1,350	125	800	3,700	1,000	1,500	7,675	800	100	100	50

貫能技術工程有限公司

FAIR TECHNICAL ENGINEERING CO., LTD

台北市中正區和平西路一段 80 號 11 樓之 5 11-5F, No. 80, Sec. 1, Ho Ping W. RD. Taipei, Taiwan, TEL: +886-2-2367-7070 FAX: +886-2-2365-9024 E-mail: fair.tech@msa.hinet.net

VOC ADSORPTION DEVICE

1. Purpose

- (1) Washing of electronically and optical parts.
- (2) Tire renewal, Rubber, Glass fiber, Dye, Paint production.
- (3) Plastic, Printing, Glue, Agrochemical, Organic Solvent Production.
- (4) Aluminum to fit different circumstances.

3. Features

- (1) Compact design, Easy for transportation and installation.
- (2) Rail type fixture of filter plenum, easy for installation and replacement.
- (3) Fit indoor and outdoor installation.
- (4) Can be combined with various of air pollution control equipments.
- (5) Fabricated with steel, Galvanized steel, stainless steel or Aluminum sheet.

2. Specifications and Functions

						Of F
Specification	Н	W	L	L1	Filter area	Recommended
Model No.	(mm)	(mm)	(mm)	(mm)	(m^3)	Air Volume (cmm)
CEF-22A	1,100	1	1,200	1,000	1.44	43.2
CEF-22B	1,100	2	1,200	1,000	2.88	86.4
CEF-22C	1,100	3	1,200	1,000	4.32	129.6
CEF-23A	1,100	1	1,800	1,000	2.16	64.8
CEF-23B	1,100	2	1,800	1,000	4.32	129.6
CEF-23C	1,100	3	1,800	1,000	6.48	194.4
CEF-24A	1,100	1	2,400	1,000	2.88	86.4
CEF-24B	1,100	2	2,400	1,000	5.76	172.8
CEF-24C	1,100	3	2,400	1,000	8.64	259.2
CEF-32A	1,500	1	1,200	1,400	2.16	64.8
CEF-32B	1,500	2	1,200	1,400	4.32	129.6
CEF-32C	1,500	3	1,200	1,400	6.48	194.4
CEF-33A	1,500	1	1,800	1,400	3.24	97.2
CEF-33B	1,500	2	1,800	1,400	6.48	194.4
CEF-33C	1,500	3	1,800	1,400	9.72	291.6
CEF-34A	1,500	1	2,400	1,400	4.32	129.6
CEF-34B	1,500	2	2,400	1,400	8.64	259.2
CEF-34C	1,500	3	2,400	1,400	12.96	288.8
CEF-42A	1,900	1	1,200	1,800	2.88	86.4
CEF-42B	1,900	2	1,200	1,800	5.76	172.8
CEF-42C	1,900	3	1,200	1,800	8.64	259.2
CEF-43A	1,900	1	1,800	1,800	4.32	129.6
CEF-43B	1,900	2	1,800	1,800	8.81	288.2
CEF-43C	1,900	3	1,800	1,800	12.96	388.8
CEF-44A	1,900	1	2,400	1,800	5.76	172.8
CEF-44B	1,900	2	2,400	1,800	11.52	345.6
CEF-44C	1,900	3	2,400	1,800	17.28	518.4
CEF-45A	1,900	1	3,000	1,800	7.2	216
CEF-45B	1,900	2	3,000	1,800	14.4	432
CEF-45C	1,900	3	3,000	1,800	21.6	649

貫能技術工程有限公司

FAIR TECHNICAL ENGINEERING CO., LTD

AIR POLLUTION CONTROL

1. Structure and Principle

After chlorine is collected, it is sent to neutralization equipment to touch and adsorb high-concentrated NaOH; chlorine emitted can meet the emission amount defined in the environment protection code.

2. Purpose

Make acidic/caustic handling, dust handling, odor handling and chlorine neutralizing processes to waste gas.

3. Specifications and Functions

Use FRP, PP or other anti-corrosive material to build the body structure; main structure thickness varies corresponding to different models and capacities.

陸發國際股份有限公司 L&FINTERNTATIONAL CO.,LTD.

桃園市龍潭區九龍村 23 鄰九座簝 43 之 5 號 No.43-5, Nine-Prdestal-Laos, 23 Lin Kow-Loon Borg Lungan Shiang, Taoyuan, Taiwan TEL: +886-3-499-0369 FAX: +886-3-499-0010 E-mail: pattychg@lfic.com.tw

WET SCRUBBER

1. Structure and Principle

This facility mainly comprises a tank proper, circulation tank, filler layer, demister, circulation pump, solvent system, power control system and sampling platform. facility works by utilizing fan to create negative pressure for suction and draws flue gas into the tank. Through gas and liquid contact in the tank with mixture of recovery solvent, neutralization, oxidization or recovery of the mixture take place achieve the purpose ofair purification.

2. Purpose

This product is suitable of surface treatment, the dip, the etching, the exhausted membrane, the development, the galvanization for the system regulation and so on processing sour alkalinity waste gas.

3. Features

Under the same condition, products designed by the company has lower pressure damages to the tower body, high processing efficiency, operation and maintenance, negative pressure, and strong structure.

4. Specifications and Functions

This product can be customized in dimension and specification according to required wind volume, and can be made in vertical and horizontal forms and in 2 or 3 sections. The main materials used include SUS304, PP, PVC, and FRP.

5. Product Photo



朝國環保工程有限公司 C&K PROTECH CORP

桃園縣龜山鄉樹人路 201 號 No. 201, Shuren Rd., Gueishan Township, Taoyuan County, Taiwan TEL:+886-3-359-0181 FAX:+886-3-329-9002 E-mail:ck432277@ms76.hinet.net

HIGH-BOILING POINT ORGANIC SOLVENT TREATMENT FACILITY

1. Structure and Principle

Configuration : cooling pipe-coil, demister, thermal pipes (optional).

Principle: Gas temperature is lowered to below the relative stem pressure of specific chemical to allow the chemical to condense and achieving the purpose of separation.

2. Purpose

- (1) High boiling point organic gas of high concentration >1%.
- Flue gas carrying chemical of high boiling point and low steam pressure.

3. Features

- (1) Designed in compliance with PHA.
- (2) Pioneered design of washing water systems (TSMC plant 2, 10 years ago). It is equipped with self-cleaning functions to ensure the heat-exchange efficiency of the condensation tubes and fire safety.
- (3) It is equipped with self-clean function to ensure the efficiency of heat exchange and fire safety.
- (4) High-performance demister: High hydraulic load, low clogging, high demist efficacy (99 % elimination rate for 3μm droplets).

- (5) Equipped with PLC and human/machine interface (optional).
- (6) Equipped with wind-volume adjustment system (25~120%).
- (7) Equipped with heat pipe-coil for thermal recovery, which cuts down fogging and frosting to a great scale.
- (8) Equipped with a circulation pump for controlling of the cool water temperature and adjusting of the condensing volume (pipe-coiler equipped with exposed temperature)

4. Specifications and Functions

- (1) This equipment is made with SUS316 grade.
- (2) The outlet temperature of the condenser can be controlled to $10 \sim 14 \,^{\circ}\text{C}$.
- (3) The condensation efficiency of this facility reaches 70 ~ 95 % (pending upon flue gas concentration).

5. Product Photo



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DESICCANT TECHNOLOGY CORPORATION

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VOLATILE ORGANIC EXHAUST TREATMENT FACILITY (FLUIDIZED BED)

1. Structure and Principle

Configuration: 1st fan, 2nd fan. suction, separator, condenser, steam regeneration (SSR), chiller, THC Continuous Surveillance System. Principle: VOC passes the fluid bed system (containing GBAC) for pollutants to attach to GBAC; the cleaned air is then released. After which, GBAC is stripped of VOC in the separator through electric heating (400°C). The removed VOC is then cold condensed into wastewater for further

2. Purpose

Manufacturing exhaust of semiconductor and related industries generally has greater wind volume ($>10,000\mathrm{CMH}$) and low concentration ($<800\mathrm{ppm}$ as $\mathrm{CH_4}$), and often carries chemicals of high boiling point and low differentiation.

treatment.

3. Features

- (1) High operating stability, easy operation: the suction system of the fluid bed and separation system of the mobile bed are carefully designed; the charcoal globe has good flow and stable operation that functions steadily despite wind volume fluctuation to attain the designed treatment efficiency.
- (2) Safety: Flow format means deposit does not build up on the charcoal bed which may lead to ignition. N2 is employed as the safety gas to ensure safety in high-temperature operating zones.
- (3) N₂ circulation for low cost:

 Designed with a second suction system; cleaner N₂ can be recycled to cut running cost.
- (4) No wastewater: The scrubber system is divided into 3 electro-thermal sections for indirect heating that produces no wastewater.

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- (5) Flexible system: high condensation rate (over 1000 times) back-end flexible system offers configuration to suit various condensers or combustors as required. It is an excellent solution for areas without gas supply; large wind-volume acceptance range, suitable for manufacturing systems of drastic wind volume fluctuation.
- (6) Continuous monitoring man/machine interface enables direct monitoring of the system's operating status; treatment equipment's inlets and outlets can be fitted with (optional) for THC uninterrupted surveillance, and various report, spreadsheet designs that are available to meet legal requirements.

4. Specifications and Functions

- (1) Wind Capacity: 3,000 ~ 100,000 cmh.
- (2) Concentration Capacity : 10 \sim 1,000 ppm (as CH₄).
- (3) Condensation Efficacy: over 1,000 times.
- (4) Elimi nation Rate : over 90 %.





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VOLATILE ORGANIC EXHAUST TREATMENT FACILITY (WHEEL)

1. Structure and Principle

The system consists of a 1st fan, 2nd fan, wheel, incinerator (TO/RTO), THC Continuous Surveillance System Principle: VOCs passes the wheel (containing hydrophobic inorganic recovery solvent) for reaction: clean air is then released. and pollutants attached to the wheel. VOCs are then stripped high-temperature gas (180 °C); the stripped-off VOCs is then subjected to a vertical-burning incinerator.

2. Purpose

Manufacturing exhaust of semiconductor and related industries generally has greater wind volume (> 10,000 cmh) and low concentration (< 800 ppm as CH_4), and often carrying chemicals of high boiling point and low differentiation.

3. Features

- (1) Fully automatic continuous operation: System purification effectiveness is maintained over 90% (design can be elevated to 95% according to requirement).
- (2) Non-coupling design offers low system pressure fluctuation; negative pressure operation produces low environmental odor.
- (3) PLC: Wheel part contains N₂ and fire auto sprinkler system; combustor is additionally designed with gas or diesel auto shutoff valve and flow adjust valve for precise control of fuel supply and emergency shutdown.
- (4) Heat is twice recycled with an aggregated rate of $80 \sim 90$ %.
- (5) Wheel is water washable: in treating emission that carries difficult or non-stick VOCs of high boiling point, the deposits on wheel surface can be removed via the auto washer to quickly restore the wheel's function.

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4. Specifications and Functions

- (1) Wind Capacity: 10,000 ~ 100,000 cmh.
- (2) Concentration Capacity: $50 \sim 200 \text{ ppm}$ (as CH₄).
- (3) Condensation Efficacy: $6 \sim 15$ times.
- (4) Elimination Rate: over 90 %.

5. Product Photo



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ABATEMENT SYSTEM

1. Structure and Principle

- (1) High plasma efficiency to treat the process gas.
- (2) High abatement efficiency for all Toxic Gas
 - -Process Gas : Under TLV
 - -PFC Gas > 99% (Exception : CF4 > 95%)
 - -SiH4 & NH3 Gas > 99%
- (3) Corrosion resistance material and design.
- (4) Prevent the powder clogging design.
- (5) Multiple wet treatment chamber design.
- (6) Touch Screen Monitor.
- (7) Excellent safety interlock design.
- (8) Diversified Option for user demand.

2. Purpose

Unique Technique:

- (1) CNT Plasma Sources.
- (2) H/O Free Radical Provider.

3. Features

(1) NO Fuel (NG/LPG or "H2")

- (2) NO COF2 & HCN (Toxic Byproducts)
- (3) High Energy Efficiency (90% ~ 99%)
- (4) Atmosphere System, can treat flammable gas.
- (5) Extreme High DRE% (CF4 > 95%.
- 4. Specifications and Functions

AC 220V \ 380V

5. Representative Performance

China Semiconductor company:
SMIC \ CXCT \ UMSC \ Nexchip

6. Product Photo



7. Award (Certification) Project

Semi S2 \ Semi F47.

愛迪亞科技股份有限公司 ICS TECHNOLOGY CO., LTD.

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ACTIVATED CARBON REACTOR FACILITY

.1. Structure and Principle

This facility employs porous solids to treat fluid mixture for one or multiple ingredients to concentrate on the surface of the solids to achieve particle separation. Since the process can effectively capture low-concentration pollutants, it is prevalently applied in public hazard prevention such as recycle and purification of organic solvents and air condition deodorization.

.2. Purpose

Emission from PCB manufacturing, paint job, toxic emission from petrochemical manufacturing.

.3. Features

- (1) Massive surface area.
- (2) Large capacity.
- (3) Selective adherence function for different gases.
- (4) High mechanical strength, thermal and chemical stability.
- (5) Wide supply sources and inexpensive.

4. Specifications and Functions

- (1) Cylinder mono-reactor.
- (2) Cylinder dual-reactor.
- (3) Rectangular mono-reactor.
- (4) Saturated charcoal can steam treated or directly replaced.
- (5) Capacity can be designed and manufactured according to requirement.

5. Product Photo



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STEEL-PLATE CENTRIFUGAL AIR-SUPPLY FAN

1. Structure and Principle

A type of air supply that applies centrifugal compression to compress air supply to the required specification.

2. Purpose

High efficiency, low noise and vibration

3. Features

Applicable for incinerator air supply, flue-gas equipment air supply, mechanical processing, manufacturing, and various factory emission.

4. Representative Attainments

- (1) Taiwan Sugar : 650hp Sugarcane Residue Boiler I.D. Fan.
- (2) Taiwan Chemical: 215 hp.
 Petrochemical Manufacturing
 Equipment.
- (3) Formosa Plastics, No. 6 Naphtha Cracker Plant: 300hp Incinerator I.D. Fan.
- (4) Jen Yuan Kai Li: 200 hp. Incinerator, Singapore.

5. Product Photo



Award (Certification) Project CNS compliant.

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