

●水膜スクラバー〔デオライザー〕
Deoriser

Examples of exhaust gas treatment equipment in use
at all kinds of plants

□ Deoriser & Deoblaster

Deodorization of organic solvents



- Type of exhaust gas : Water-soluble VOCs (volatile organic compounds)
- Air volume : 1,200m³/min
- Model : Deoriser DR-30W × 4units

Problem

When LCD color filters were washed with water-soluble organic solvents, solvent odors were emitted, and there was concern about impact on neighboring facilities.

Challenges

No odors reach neighboring facilities

Solutions

Four BioDeoriser DR-30W units were used to treat exhaust gas emitted at volumes of up to 1,200m³/min.

Effects

Initially, there were plans to use materials such as activated carbon for second-stage treatment, but these plans were abandoned as Deoriser alone can capture and keep approximately 80% of PGMEA and other water-soluble organic solvents. Bio Deoriser continues to function at this rate of effectiveness today.



- Type of exhaust gas : Water-soluble VOCs (volatile organic compounds)
- Air volume : 450m³/min
- Model : Deoriser DR-30W × 1 unit



Problem

When manufactured products were washed with organic solvents, solvent odors were emitted and flowed into an office in a separate building.

Challenges

Reliable capture of water-soluble organic solvents.

Solutions

One Bio Deoriser DR-30W unit was used to treat exhaust gas emitted at volumes of up to 450m³/min.

Effects

Odor concentrations of 1,000 or greater were successfully reduced to levels consistently below 400.



The customer recognized the effectiveness of our VOC (volatile organic compound) gas capture technology.

Repeat orders

The customer recognized the effectiveness of the previously delivered Bio Deoriser, despite the difficulty of capturing VOC gas, and we received a repeat order. One problematic occurrence the previous time was when a large amount of a specific microorganism was generated in the groundwater, clogging the screen, but a chlorine drip was used to keep the microorganism at low concentrations.



- Type of exhaust gas : Water-soluble VOCs (volatile organic compounds)
- Air volume : 800m³/min
- Model : Deoriser DR-30W × 2units

Problem

When LCD color filters were washed with water-soluble organic solvents, solvent odors were emitted, and there was concern about impact on neighboring residences.

Challenges

Minimizes impact on the vicinity

Solutions

Two Bio Deoriser DR-30W units were used to treat exhaust gas emitted at volumes of up to 800m³/min.

Effects

It was verified that PGMEA, acetone and other water-soluble organic solvents could be captured with ease, and a single-stage rather than two-stage water film treatment was sufficiently effective.

Paint drying oven exhaust gas deodorization plant



- Type of exhaust gas : Paint drying oven exhaust gas
- Air volume : 1,050m³/min
- Model : Deoriser DR-30W × 3units

Problem

A combustion system was used for first-stage treatment of exhaust gas emitted by paint drying ovens, but the system was incapable of thorough treatment, and there were complaints from neighbors. The fumes from drying ovens also permeated the plant itself and created poor working conditions.

Challenges

Improving working conditions and eliminating complaints from neighbors.

Solutions

Three Bio Deoriser DR-30W units were used to treat exhaust gas at air volumes of 700m³/min after combustion treatment, with gas leaking at 350m³/min.

Effects

Complaints from neighbors ceased, and it was possible to treat the leaked gas that permeated the upper areas of the plant and resolve the problem.



- Type of exhaust gas : Paint drying oven exhaust gas
- Air volume : 50m³/min
- Model : Deoriser DR-4W × 1unit

Problem

When a new plant was scheduled for construction, there was concern over the ill effects of exhaust gas from paint drying ovens on others in the vicinity.

Challenges

The customer wanted to treat and emit exhaust gas from paint drying ovens at low cost.

Solutions

One Bio Deoriser DR-4W unit was used to treat exhaust gas.

Effects

Not a single odor-related problem has occurred since the plant was established.



- Type of exhaust gas : Paint drying oven exhaust gas
- Air volume : 150m³/min
- Model : Deoriser DR-16W × 1 unit

Problem

For a new plant, the Environmental Department of the local authorities requested that measures be taken to deal with odors of exhaust gas from paint drying ovens.

Challenges

The customer wanted to treat and emit exhaust gas from paint drying ovens at low cost.

Solutions

One Bio Deoriser DR-16W unit was used to treat exhaust gas.

Effects

In five years of operation, despite highly concentrated emissions of exhaust gas, there has been no odor-related trouble. Running costs have been kept low as well, with maintenance carried out just once every two or three months.

Odor countermeasures for foundry



- Type of exhaust gas : Deodorization of casting foundry (outside Japan)
- Air volume : 2,800m³/min
- Model : Bio Deoriser DR-30W × 4units



Problem

On the casting line, powerful odors such as those of resins were emitted, raising concerns both inside and outside the foundry.

Challenges

The system effectively captures odorous substances such as ammonia-containing resins, improving the work environment and preventing pollution.

Solutions

Four Bio Deoriser DR-30W units were used for liquid film treatment of exhaust gas emitted at air velocities of up to 1.83m / sec.

Effects

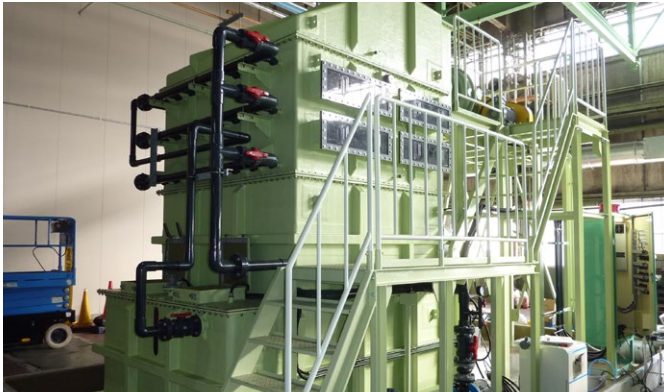
The work environment was significantly improved, and discharge of odors to the vicinity was sufficiently curtailed. We received additional orders for Bio Deoriser for other lines, as well.



Thanks to the positive response, Deoriser was incorporated into existing facilities as well.

Repeat orders

The exhaust gas treatment we previously installed on a new casting line achieved positive results, and we installed Bio Deoriser units for exhaust gas treatment on existing casting lines as well. We have received feedback from the customer to the effect that "it does the job almost too well," but we cannot deny that since most of the pollutants are inorganic soot, some work is required to remove them. We are dealing with this issue via our maintenance system in Thailand.



- Type of exhaust gas : Casting foundry exhaust gas
- Air volume : 150m³/min
- Model : Bio Deoriser DR-16W × 1 unit

Problem

The customer sought prevention in advance of strong odors, including chemical smells, generated by a new casting line.

Challenges

The system effectively captures odorous substances and prevents pollution.

Solutions

One Bio Deoriser DR-16W unit was used for liquid film treatment of exhaust gas emitted at air velocities of up to 0.73m / sec.

Effects

The work environment was significantly improved, and discharge of odors to the vicinity was sufficiently curtailed. We received additional orders for Deoriser for other lines, as well.

Organic exhaust gas deodorization equipment



- Type of exhaust gas : Fertilizer dryer exhaust gas
- Air volume : 20m³/min
- Model : Deoriser DR-2W (made of PVC) × 1 unit

Problem

Sludge generated at a village wastewater treatment facility is dried in a drum, and when it is turned into fertilizer pellets, ammonia and other gases are emitted.

Challenges

Gases are rendered virtually odorless before emission.

Solutions

One Bio Deoriser DR-2W unit (made of PVC) and one dilute sulfuric acid drip system were used to treat exhaust gas.

Effects

pH is kept virtually within neutral range, and ammonia gas concentration is kept at levels reduced from 100ppm to under 1ppm.



- Type of exhaust gas : Charcoal-grilled chicken exhaust gas
- Air volume : 400m³/min
- Model : Deoriser DR-30W × 1 unit

Problem

At a charcoal-grilled chicken plant, exhaust gas emitted during the manufacturing process was polluting the local community, and no effective deodorization measure could be found.

Challenges

Eliminating pollution of the local community

Solutions

One Bio Deoriser DR-30W unit (FRP specifications) and one deodorizing agent spray chamber were used to treat exhaust gas.

Effects

Odor levels had been very high, but all complaints from the community were eliminated.

Rubber product plant Vulcanization process deodorization system



- Type of exhaust gas : Rubber product processing exhaust gas
- Air volume : 50m³/min
- Model : deoriser DR-4 (with built-in fan) × 1 unit



Problem

A scrubber system had been installed to capture dust contained wire fragments generated during the cutting and polishing processes of rubber products containing wire, but it did not capture the dust effectively, and fires broke out inside the ducts.

Challenges

Effective capture of rubber scraps and small wire fragments.

Solutions

Deoriser DR-4 (with built-in fan) × 1 unit per line were installed.

Effects

Rubber scraps and small wire fragments are captured effectively, and fires ceased to break out inside ducts during the later-stage processes.

R E P E A T

The customer evaluated capture capability and installed four additional units.

Repeat orders

Compared to the wet-type dust collection and deodorization system used thus far:

- 1 Capture efficiency was markedly higher.
- 2 There was no worry about fires in the duct in the latter stage.
- 3 The screen was less apt to be blocked.

The customer recognized these benefits, and ordered a total of five more units.



- Type of exhaust gas : Gas from rubber product vulcanization process
- Air volume : 30m³/min
- Model : Scrub Duct SD-6 × 1 unit

Problem

During the vulcanization process at a rubber products plant, particulates and exhaust gas mixed with organic solvents were released, sparking complaints from neighbors.

Challenges

Odors are kept to a level that the local community can accept.

Solutions

First-stage treatment was carried out with one Bio Deoriser SD-6 scrub duct unit.

Effects

Depending on the results, it was thought that second-stage treatment might be required, but complaints from neighbors were curtailed through first-stage treatment alone.



- Type of exhaust gas : Gas from rubber product vulcanization process
- Air volume : 50m³/min
- Model : Scrub Duct SD-6W × 1 unit

Problem

Customer wanted to capture and deodorize exhaust gases containing siloxane and silicone, emitted during manufacture of rubber products, at low cost.

Challenges

These odors were reduced to a level of negligible concern before emission.

Effects

First-stage treatment was carried out with one Bio Deoriser SD-6W scrub duct unit.

Solutions

Approximately 80% of siloxane was captured, but as expected, hydrophobic siloxane escapes. The plant plans to install a chamber combining various types of filters for second-stage treatment.

Deodorization at industrial waste treatment plant



- Type of exhaust gas : Fresh garbage odor deodorization
- Air volume : 80m³/min
- Model : Bio Deoriser DR-9 × 1 unit

Problem

Customer planning a new food waste recycling plant wanted to ensure no odor-related trouble occurs.

Challenges

Deoriser reduces odors to a level that will not disturb the plant next door.

Effects

One Bio Deoriser DR-9×1 unit was installed.

Solutions

Food waste odors were effectively captured, and the plant continues to operate with no problems.



- Type of exhaust gas : Waste milk spoilage exhaust gas
- Air volume : 500m³/min
- Model : FRP Deoriser (special type) × 1 unit

Problem

Customer wanted to prevent dissemination of putrefying odors from discarded milk collected and stored.

Challenges

Odors from discarded milk pit reduced to virtually zero.

Effects

One specialized FRP Bio Deoriser unit was installed.

Solutions

Putrefying odors were effectively captured and the plant continues to operate with no problems.

Capture of formaldehyde gas from chemical factory.



- Type of exhaust gas : Formaldehyde-containing gas
- Air volume : 260m³/min
- Model : Bio Deoriser DR-30W

Problem

Customer wanted to reduce concentration of formaldehyde gases generated during manufacture, which are harmful to human health

Challenges

Caution is required to avoid corrosion, explosions, etc. because dangerous exhaust gases that do not dissolve in water, such as carbon disulfide and hydrogen sulfide, are emitted along with formaldehyde.

Solutions

With the Bio Deoriser DR-30W, we set internal air velocity at 0.68 m/sec so as to maximize contact time.

Effects

As expected, carbon disulfide and hydrogen sulfide could only be captured at rates of about 30% to 40%, but 95% or more of formaldehyde could be captured.

Deoblaster installation case examples



- Type of exhaust gas : Drying oven exhaust gas
- Air volume : 5.0m³/min
- Model : Deoblaster DB-330 × 1

Problem

Despite the new plant having been designed for small air volumes emitted from drying ovens, exhaust gas was emitted at high concentrations, and the customer needed to treat gas so that odors do not reach the surrounding community.

Challenges

Complaints from neighbors were eliminated.

Solutions

One compact Deoblaster DB330 deodorization system was installed.

Effects

Virtually all of the gas was successfully captured by water despite the gas's strong acidity. A pH meter was coordinated with the system so that a caustic soda drip could be used as a backup measure.



- Type of exhaust gas : Fertilizer treatment equipment exhaust gas
- Air volume : 10m³/min
- Model : Deoblaster DB-480 × 1

Problem

Sludge generated at a village wastewater treatment facility is dried in a drum, and when it is turned into fertilizer pellets, ammonia and other gases are emitted.

Challenges

Gases are rendered virtually odorless before emission.

Solutions

One Deoblaster DB-480 unit was used to treat gases.

結果

pH is kept virtually within neutral range, and ammonia gas concentration is kept at levels reduced from 100ppm to under 1ppm.

Installation examples

Major customers	Model	Purpose / Application	Location
DAIHATSU head plant industry	Electrodeposition gas scrubber circulating water system	Aldehyde gas reduction	Ikeda City,Osaka
Yakiniku genya	Subterranean deodorization system300m ³ /min	Grilled beef deodorization	Miki City,Hyogo
Yakinikuya SAKAI Sagamiharaba main store	Deodorization system Neo-One 400m ³ /min	Grilled beef deodorization	Sagamihara City,Kanagawa
Yakitori SOMI	Deodorization system Neo-One 150m ³ /min	Grilled chicken deodorization	Kakogawa City,Hyogo
Ura Industry (nikko)	Styrene gas deodorization system	Styrene exhaust gas concentration reduction	Fukuoka City,Fukuoka
Yakinikuya SAKAI Nagoya kaneyama store	Deodorization system Neo-One 400m ³ /min	Grilled beef deodorization	Nagoya City,Aichi
SOTOH	Specialized deodorization system 200m ³ /min	Thermal textile treatment deodorization	Aichi
Kansai Recycling Network	Deodorization system DR-9	Household garbage deodorization	Sakai City,Osaka
Yakitori Toriyoshi (factory)	Subterranean deodorization system200m ³ /min	Grilled chicken deodorization	Osaka City,Osaka
Tsukuda Industry corporation.	Deodorization system DR-9	Paint drying oven	Hiroshima
WATANABE INDUSTRY Co.,Ltd	Deodorization system DR-16	Industrial and agricultural equipment paint drying oven	Nagahama City,Shiga
Delica Wing hiroshima factory	Deodorization system DR-16	Grilled beef box lunch production line deodorization	Hatsukaichi City,Hiroshima
kyoeisha Chemical Co.,Ltd.	Deodorization system DR-2S(made of SUS)	Drug reaction tank cleansing waste liquid deodorization	Nara
Sunright	Deodorization system Neo-One 75m ³ /min	Cocoa bean roasting smoke deodorization and particulate collection	Shizuoka
TAKIRON CO.,LTD. Aboshi factory	Deodorization system DR-1(made of SUS)	Chemical reaction deodorization	Himeji City,Hyogo
Yokota shop	Deodorization system Neo-One 50m ³ /min	Charcoal-grilled eel deodorization and particulate collection	Nagoya City
Daiei service	Bioshower deodorization system	Waste liquid trans-shipment and storage facility deodorization	Nishinomiya City,Hyogo
Appliance Store some corporation	Deodorization system DR-30W(made of FRP)	Organic solvent exhaust gas deodorization system	Miyazaki
MITSUBISHI FUSO TRUCK AND BUS CORPORATION	Deodorization system DR-9W(made of SUS)	Electrodeposition coating drying oven exhaust gas treatment	Kawasaki City,Kanagawa
Juridical Agricultural Union enuchikin	Deodorization system DR-30W(made of FRP)	Chicken preparation exhaust gas treatment	Kagoshima
KOBAYASHI PERFUMERY CO.,LTD.	DR-1W deodorization system (made of SUS) / deodorizing agent	Fragrance manufacturing exhaust gas treatment	Ichikawa City,Chiba
DAISO matsuyama factory	Deodorization system DR-1W(made of SUS)	Used as a test device	Matsuyama City,Ehime
Osaka DENSO industry	Deodorization system DR-2S(made of SUS)	Drying oven exhaust gas deodorization system	Higashiyodogawa-ku,Osaka City
Nishifuse District Processing plant	Deodorization system DR-1W(made of SUS)	Sludge compost system exhaust treatment	Uozu City,Toyama
YAMAHA KUMAMOTO PRODUCTS	Deodorization system DR-9S(made of SUS)	Odor countermeasures for foundry	Yashiro City,Kumamoto
Tire manufacturing plant some corporation	Deodorization system SD-6W(made of SUS)	Exhaust gas deodorization system for rubber processing	Yamaguchi
Dai Nippon Printing Co.,Ltd.	Four DR-30W deodorization system units (made of SUS)	Organic solvent exhaust gas deodorization system	Osaka
Bridgestone Flowtech	Four Deodorization system DR-4W	Rubber product processing odors	Kasai City,Hyogo
Sumitomo Chemical Company, Limited	Two DR-30W deodorization system units (made of SUS)	Organic solvent exhaust gas deodorization system	Konohana-ku,Osaka City
Kobe Bankin Kogyo	Deodorization system DR-6W(made of SUS)	Paint drying oven exhaust gas deodorization system	Takasago City,Hyogo
Yoshitori	Deodorization system Neo-One 25m ³ /min	Charcoal-grilled chicken exhaust odor treatment	Osaka City,Osaka
Kitawa District Processing plant	Deodorization system DR-2W(made of PVC)	Sludge compost system exhaust treatment	Ibi County,Gifu
SHIBATA INDUSTRIAL CO.,LTD.	Deodorization system SD-6	Rubber vulcanization process exhaust gas treatment	Akashi City,Hyogo
Tokuseki-nagase district processing plant	Deodorization system DR-2W(made of PVC)	Sludge compost system exhaust treatment	Ibi County,Gifu
Yamazyou	Deoblaster DB-480 deodorization system	Compost system exhaust treatment	Konan City,Shiga
Kinugawa nukigatasyo	Deodorization system Neo-One 25m ³ /min	Lumber processing exhaust gas treatment	Kyoto City,Kyoto
MITSUBISHI FUSO TRUCK AND BUS CORPORATION(repeat)	Three separate DR-30W deodorization system units	Paint drying oven exhaust gas reduction	Kawasaki City,Kanagawa
Kureha Elastomer Co., Ltd.	One Deodorization system SD-6	Rubber product manufacturing and processing exhaust gas treatment	Kameyama City,Mie
Nakayama industry	Deoblaster DB-380 deodorization system	Teflon drying exhaust gas treatment	Komaki City,Aichi
MITSUBISHI Electric Power Devices factory	Three separate DR-30W deodorization system units	Organic solvent exhaust gas reduction	Kawasaki City,Kanagawa



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