



CDU Series Destruct Devices



Installation and Operation Manual

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Cautions, Warnings and Hazards Concerning Exposure To The Catalyst

NOTE: The catalyst is sealed inside of the CDU units. The catalyst will not be in contact with you if the container has not been broken or opened up.

EFFECTS OF ACUTE EXPOSURE TO THE CATALYST INSIDE THE CDU DESTRUCT UNITS

(AGAIN, Only if the CDU container has been broken or has been opened up, the following list applies.)

1. Inhalation
 - May cause nose, throat and lung irritation.
2. Skin Contact
 - May cause skin irritation or dehydrating of skin.
3. Eye Contact
 - May cause eye irritation.
4. Ingestion
 - Irritating to mouth, throat, and stomach.

EMERGENCY AND FIRST AID PROCEDURES FOR HAVING BEEN EXPOSED TO THE CATALYST

(If the CDU container has been broken or has been opened up, the following list applies.)

1. Eyes:
 - Immediately flush eyes with large amounts of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface. Seek medical attention if irritation persists.
2. Skin
 - Flush contaminated areas with large amounts of water. Remove contaminated clothing. Wash clothing before reuse.
3. Inhalation
 - Remove person to fresh air. If breathing is difficult, administer oxygen. Seek medical attention.
4. Ingestion
 - Never give anything by mouth to an unconscious or convulsing person. If conscious, give large quantities of water. Do not induce vomiting. Seek medical attention. The material itself inside the CDU Series Destruct Units is noncombustible but may accelerate the burning of combustible material.

Introduction and Application of the CDU Destruct Models

These destruct devices are modular and capable of operating in wet (saturated) air streams or dry air streams. Flow ratings are reduced for wet air streams. Also, a heater band is required for wet air streams to ensure moisture does not condensate on the carulite media. If your destruct device does not have a heater band only dry air streams should be used.

Theory of Operation

The CDU series Ozone Destruct Units utilize a catalytic method to remove excess ozone. The catalyst is a transition metal manganese dioxide copper oxide material. It is not consumed by the ozone and acts as a true catalyst. The CDU series are designed to achieve a 99.96% reduction to ozone levels. The CDU units cannot move the air or gas through them on their own. The gas must be moved through the CDU units by some other force.

These Ozone Destruct Devices are designed to have the ozone gas pass through the catalyst contained inside the destruct unit. This catalyst breaks down the ozone gas which can then be readmitted to the atmosphere.

Keep in mind that very high ozone levels at the inlet of the CDU destruct system will result in some ozone at the exit. For example, ozone levels of 10,000 ppm at the inlet will result in a resulting ozone level of 4 ppm at full flow conditions.

Installation

After removing the product or caps which are sealing both ends of the unit, and then while handling the unit, you might experience some small fragments of the catalyst media coming out of the unit. This small amount of "dusting" is okay and expected.

The CDU Destruct Unit must be mounted VERTICALLY from end to end, and never in a HORIZONTAL method. This ensures that the ozone gas being forced through the CDU destruct unit will have to make its way through all of the internal catalyst media. If the CDU Destruct Unit were placed in a horizontal method, the ozone gas being admitted might just follow a path of less resistance and not be forced to flow through all of the contained catalyst media.

The exit of the CDU series can be left open to an indoor atmosphere or can be piped to an outside area, away from personnel. Be sure that the ozone flow rate does not exceed the specifications for the specific CDU series unit. If the flow rate is too high, complete ozone destruction will not take place.

In the event that the catalyst inside the sealed CDU series becomes wet, such as if any process water accidentally flows into the unit, the CDU series unit must be replaced.

IMPORTANT: The CDU destruct units are not considered weather proof nor water proof. They are designed to be operated indoors and to be placed in a non-condensing environment. If the unit is placed in a wet environment, the presence of moisture will affect the life span of the enclosed catalyst media.

Heat: The CDU destruct unit will create heat during the ozone destruction process. Greater amounts of flow and ozone in that flow will create more heat. Ensure proper piping is used at the exhaust of the CDU device (steel piping is best). Also ensure mounting brackets are used to dissipate heat from materials that cannot tolerate temperatures above 250-deg F.

Heater Band

If the destruct device is intended for use with wet or saturated air with humidity levels above 85% the heater band will be required for operation.

Heater band should be powered by 120 VAC power and be powered at all times to ensure the destruct device is ready for use at all times.

Heater band will create some heat and make the unit warm to the touch. Overall heat should not be higher than 150 deg F.

Power Requirements for the Heater Bands

CDU-30 = 15 watts

CDU-300 = 60 watts

CDU-3000 = 120 watts

Water Trap

If the destruct device is intended for use in a gas stream with water droplets a water trap should be used to drain this captured water from the device

Water will collect and drain from the bottom of the water trap. Ensure this is open and can drain freely to a water drain or safe location.

Start-Up

Make sure the CDU unit is properly connected to any hoses, etc. before operating any Ozone Generator.

Maintenance

The destruct media may become fouled or contaminated over time, and will need replacement periodically depending upon usage and conditions. Replacement destruct media can be obtained from Oxidation Technologies.

To replace the destruct media:

Remove the cover from the top of the unit and completely empty the unit by sucking the media out with a vacuum, or by tipping the unit upside down.

Clean the inside if necessary. Any build-up due to moisture should be removed. If detergents or solvents are used, rinse the unit thoroughly with water and dry it completely before refilling.

Dump the new media into the unit. With a wood mallet or similar object, tap the side of the unit while filling it so that the media "settles" towards the bottom.

Ensure that the gasket for the top cover is in good condition. Clean the mating surfaces and re-install the cover. Do not use sealants, if the gasket cannot be re-used then it should be replaced.

Service Parts

Service parts listed below can be obtained directly from Oxidation Technologies. Please contact Oxidation Technologies directly for further information on other parts.

CDU-30

Component	Quantity Required	Part Number
Catalyst	1 lb	Carulite-200
Gasket	1	CDU-30 Gasket
Screen	2	CDU-30 Screen
Heater Band	1	CDU-30 Heater
Water Trap	1	11AV

CDU-300

Component	Quantity Required	Part Number
Catalyst	5 lbs	Carulite-200
Gasket	1	CDU-300 Gasket
Screen	2	CDU-300 Screen
Heater Band	1	CDU-300 Heater
Water Trap	1	11AV

CDU-3000

Component	Quantity Required	Part Number
Catalyst	44 lbs	Carulite-200
Gasket	1	CDU-3000 Gasket
Screen	2	CDU-3000 Screen
Heater Band	1	CDU-3000 Heater
Water Trap	1	11AV

How to Contact Oxidation Technologies

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