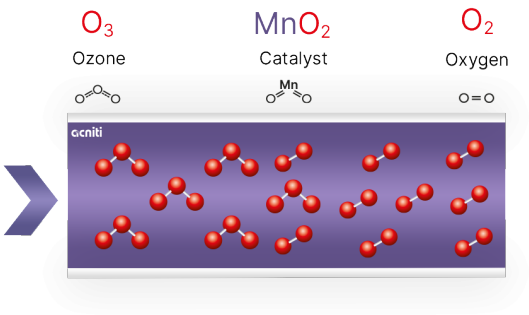
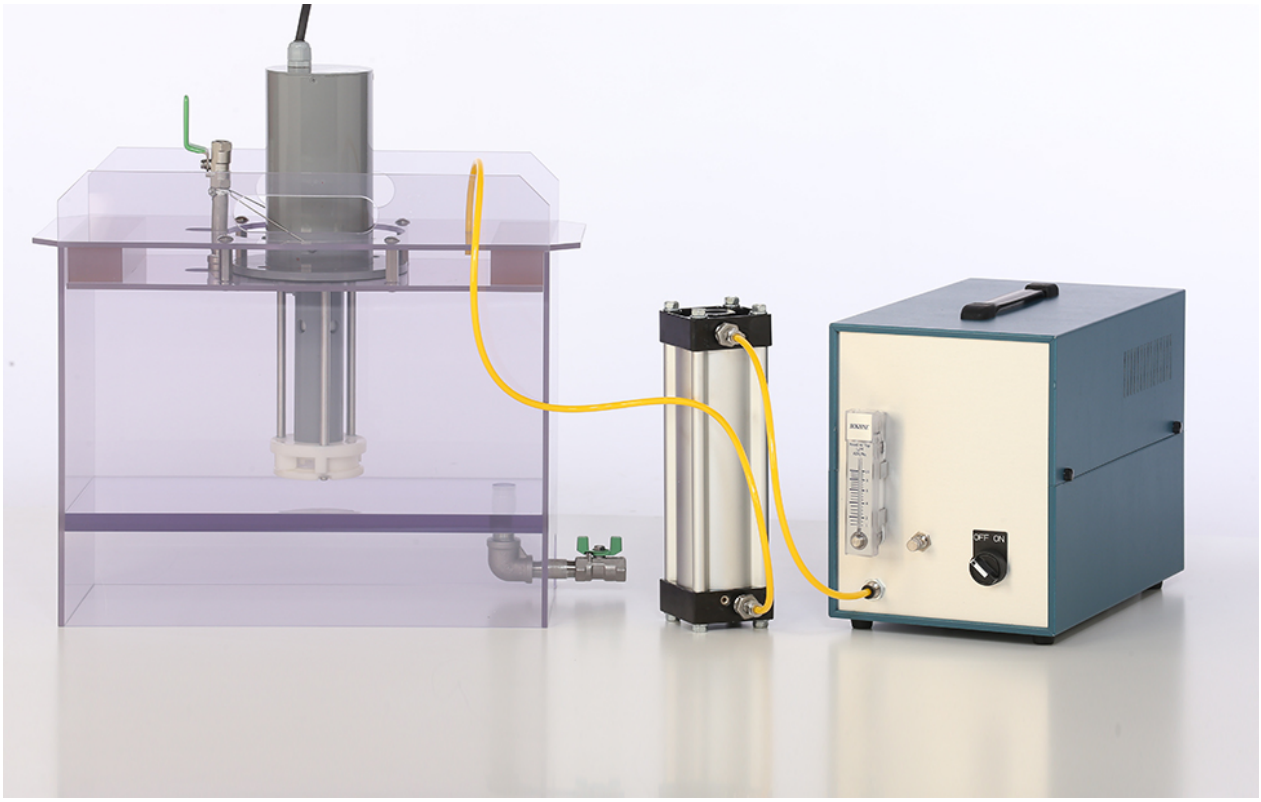
acniti LLC
1-2-9 Nyoidani
Minoh Osaka
562-0011
Japan

ozone destructor

The acniti ozone decomposer uses a catalytic method to remove excess ozone. The ozone destructor uses a modular optional approach with a Water trap, Heated chamber, Catalyst Sieve ozone destructor and Vacuum pomp. The modular approach makes ozone destruction possible many environmental conditions.





ozone destructor

ozone destructor breaks down ozone in ambient air

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- Modular ozone decomposer
- Catalytic approach with Manganese Palladium oxide
- Minimal maintenance ozone decomposer
- Many sizes possible, contact for requirements

ozone decomposition

Ozone is an enormously powerful molecule, useful for applications both in air and water treatment. After the ozone treatment process, residual high concentrations of ozone may still be present. When unwanted, this requires ozone destruction. Acniti developed a modular ozone destruction solution based on a catalysator which is scalable for small to large applications.

In research applications producing ozone off gas a small ozone decomposer will be sufficient. For large ozone contact tanks where it is not practical to release ozone into the atmosphere or reintroduce it in the water require a larger ozone destructor.

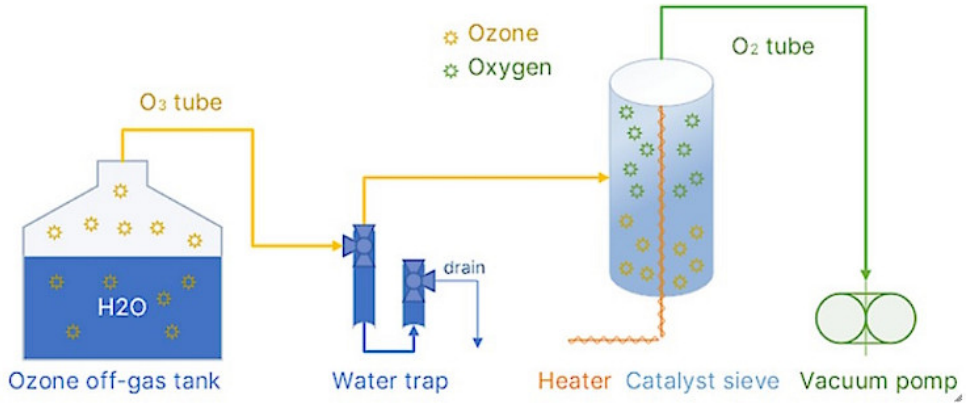
The acniti ozone decomposer uses a catalytic method to remove excess ozone. The catalyst is a transitional metal manganese dioxide in combination with palladium. The benefit of using a catalyst is that ozone does not consume the catalyst. Ozone destruction or decomposing takes place in a catalyst sieve where ozone converts into pure oxygen by the catalyst.

modular ozone destruction

To put ozone destruction into practice acniti has developed a modular system consisting of four steps. Step 3 is the core step of ozone destruction. The design of the other three steps is to protect equipment and the catalyst. These additional steps are optional depending on the destruction application:

Acniti modular ozone decomposer:

- Water trap
- Heated chamber
- Catalyst Sieve ozone destructor
- Vacuum pump



the water-trap

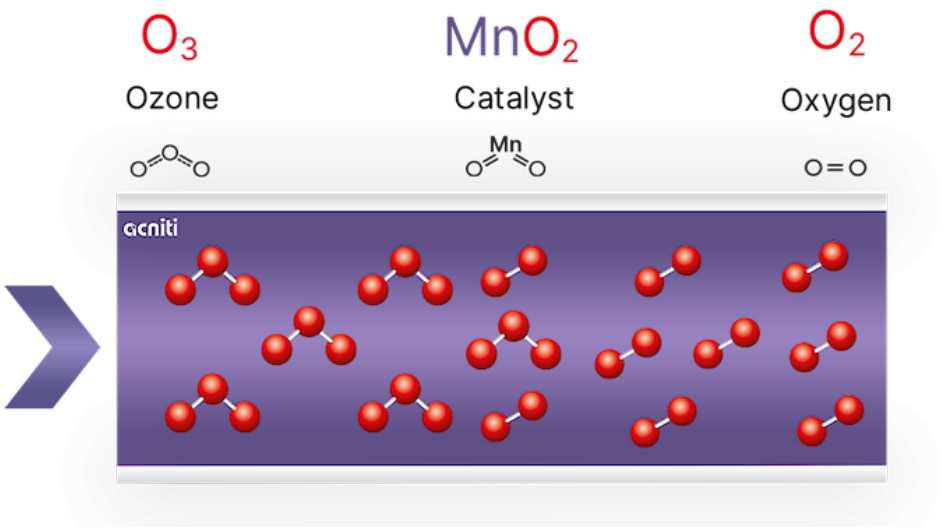
Using the ozone destructor application with the risk of water entering the system, acniti recommends the water trap. In the event water is entering the system, the water trap will drain the water and protect the catalyst sieve en vacuum pump from getting wet.

heated chamber

When the humidity of the gas is higher than 75% acniti recommends a heater chamber, humidity higher than 85% requires the heater chamber. When the catalyst saturates with moisture it is no longer effectively breaking down ozone and requires regeneration or replacement. The heater has two effects on the ozone destruction process. The first is that warm air can hold more moisture and avoids the catalyst get moisture saturated. The second effect is that the warmer the air the less stable the ozone molecule is and the easier it breaks down to oxygen.

catalyst sieve

The core component of the ozone destruction system. Converts the ozone to oxygen.



vacuum pump

When there is no positive pressure on the inlet of the catalyst sieve. The ozone air mixture cannot move through the sieve as it requires force. The vacuum pump can suck the ozone air mixture through the sieve equipped with flow controller and flow indicator. So, it is easy to control the flow.

ozone destructor 10lpm

	Description	Metric	Imperial
1	Model name	Ozone Destructor 10LPM	Ozone Destructor 10LPM
2	Model number	OD-10LPM-SUS-fittings	OD-10LPM-SUS-fittings
	Liquid	**Metric**	**Imperial**
3	Strainer availability and size		
	Ambient	**Metric**	**Imperial**
4	Relative humidity maximum	75 %	75 %
	Gas	**Metric**	**Imperial**
5	Minimum flow / minute	0.1 Liter	0.0 Gallon
6	Maximum flow / minute	10 Liter	2.6 Gallon
7	Minimum flow / hour	6.0 Liter	1.6 Gallon
8	Maximum flow / hour	600 Liter	159 Gallon
9	Gas quality		
10	Gas remark	air or oxygen containing ozone	air or oxygen containing ozone
	Connections	**Metric**	**Imperial**
11	Water inlet		
12	Water outlet		
13	Gas inlet	Standard 6mm or 1/4"	Standard 6mm or 1/4"

ozone destructor 25lpm

	Description	Metric	Imperial
1	Model name	Ozone Destructor 25LPM	Ozone Destructor 25LPM
2	Model number	OD-25LPM-SUS-fittings	OD-25LPM-SUS-fittings
	Liquid	**Metric**	**Imperial**
3	Strainer availability and size		
	Gas	**Metric**	**Imperial**
4	Gas quality		
5	Gas remark		
	Connections	**Metric**	**Imperial**
6	Water inlet		
7	Water outlet		
8	Gas inlet		

vacuum pump 10 or 25lpm

	Description	Metric	Imperial
1	Model name	vacuum pump 10 or 25LPM	vacuum pump 10 or 25LPM
2	Model number	tool_suction_pump_o3_decomposer_10_25lpm	tool_suction_pump_o3_decomposer_10_25lpm
	Liquid	**Metric**	**Imperial**
3	Strainer availability and size		
	Gas	**Metric**	**Imperial**
4	Minimum flow / minute	0.5 Liter	0.1 Gallon
5	Maximum flow / minute	25 Liter	6.6 Gallon
6	Minimum flow / hour	30 Liter	7.9 Gallon
7	Maximum flow / hour	1,500.0 Liter	396 Gallon
8	Gas quality		
9	Gas remark		
	Electrical	**Metric**	**Imperial**
10	Unit phase Ø voltage	110 volt or 220 volt	110 volt or 220 volt
11	Unit power consumption		
12	Wetted parts		
13	Pump model		
14	Pump phase Ø voltage		
15	Pump motor 50Hz	110 Watt	0.1 hp
16	Pump motor 60Hz	120 Watt	0.2 hp
17	Pump phase Ø voltage 60Hz		
18	Pump pressure setting		
19	Control		

	Connections	Metric	Imperial
20	Water inlet		
21	Water outlet		
22	Gas inlet	6mm quick fitting	6mm quick fitting
	Dimensions & weight	**Metric**	**Imperial**
23	Dim. (w) x (d) x (h)	380 x 272 x 236 mm	15.0 x 10.7 x 9.3 inch