

DESOZONE ODOR CONTROL SYSTEM

Odor Control



Sewage and industrial plants located near residential areas can be subject to political and legal problems if these facilities produce unpleasant odors. Odors in the vicinity of treatment plants are generally gaseous inorganic products or highly volatile organic compounds. Ammonia and hydrogen sulfide are considered to be the main causes of odor when the sewage comes mainly from households.

Ozono Elettronica Internazionale (OEI)

The DESOZONE odor control system is designed and built by OEI of Milan, Italy. OEI has been producing odor control systems for 30 years, supplying both packaged and custom designed systems. They have carried out a large number of odor control projects. As a result they have the experience and design skill to ensure a safe and effective design even for complex odor control challenges.

The DESOZONE Odor Control System

Spartan offers the DESOZONE odor control system which can be configured as a single or dual stage scrubber. The DESOZONE system employs a horizontal packed bed design. Each stage has a mist eliminator designed to remove 90% of the particles 5 microns and larger from the air stream. A pump recycles the scrubbing solution. When scrubbing with sodium hydroxide, ozone is added as an oxidant. Ozone has been chosen because it is a very efficient in oxidizing odor causing compounds relative to other oxidants. The ozone is produced by an integrated ozone generator using an air feed and is mixed with the scrubbing solution via an inline static mixer. The DESOZONE system maintains control by monitoring water levels in the storage basins, pH and ORP of the scrubbing solutions and the emissions of ozone, hydrogen sulfide and ammonia in the stack. Based on these inputs, additional water, acid and sodium hydroxide are added. Ozone feed is either increased or decreased to match the demand of the system. Chemical usage rates for both acid and base are typically 40-60 gm (100% basis) per 1000 N m³/hr of air to be treated (0.09-0.13 lbs per 630 SCFM). These figures assume hydrogen sulfide levels of less than 10 ppm.

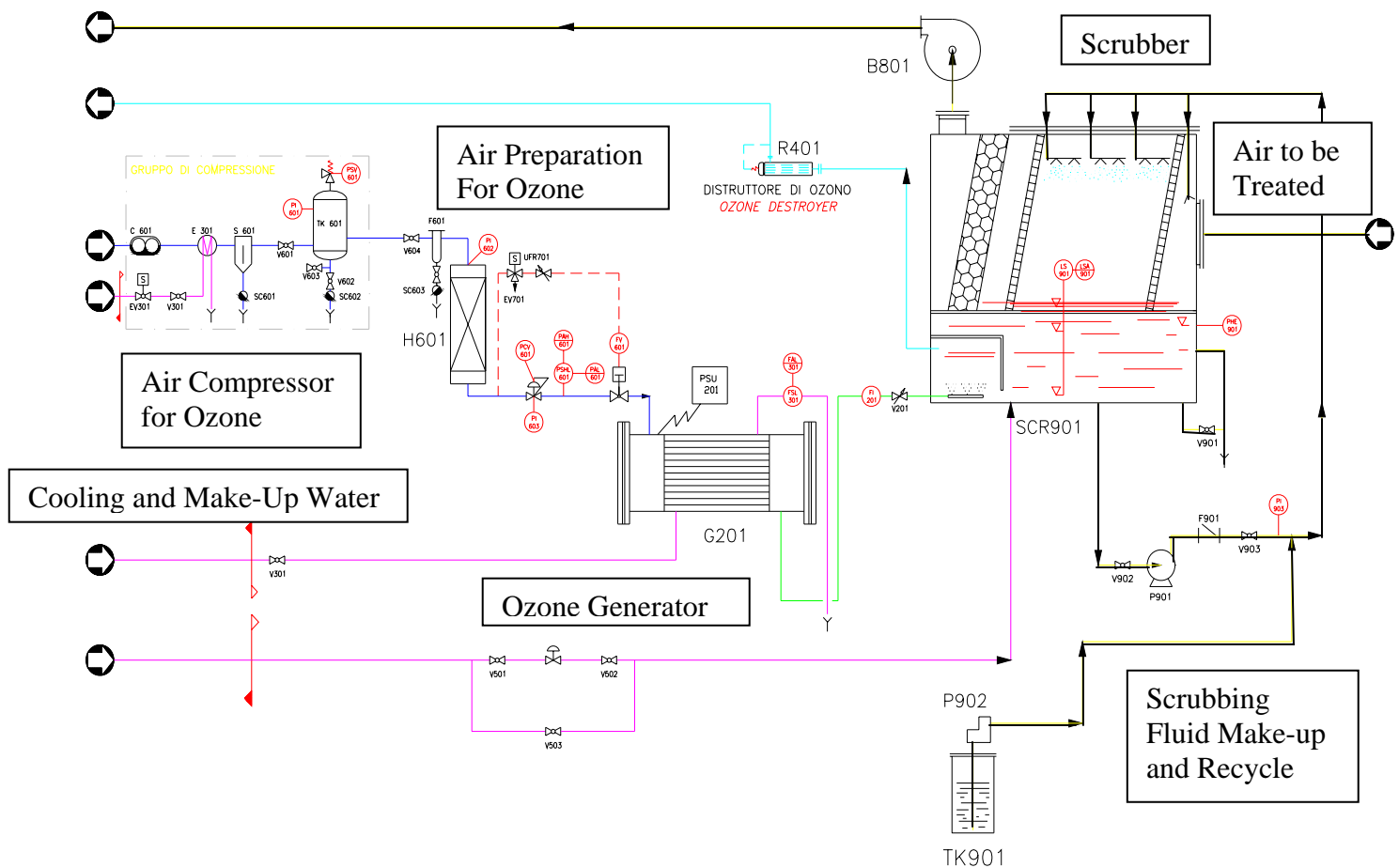
Air to Treat (Nm³/h)	250	500	1000	2500
Air to Treat (SCFM)	156	313	625	1563
O₃ Required (lb/day)	0.11	0.21	0.42	1.06
O₃ Generator Power (kW)	0.03	0.06	0.12	0.25
Total Power (kW)	0.9	1.2	2.8	3.6
Compressed Air (SCFM)	0.3	0.6	1.3	3.1
Blower Power (kW)	.5	.75	1.5	2.2
Recycle Pump Flow (gpm)	4.4	4.4	8.8	22
Recycle Pump Power (kW)	0.3	0.3	1.1	1.1
Cooling Water Flow (gpm)	0.022	0.044	0.088	0.176
Dried Air flow (SCFM)	0.06	0.06	0.31	0.63
Dimensions (ft) W x L x H	4.6 x 6.9 x 7.2	4.6 x 6.9 x 7.2	5.2 x 6.9 x 7.2	5.2 x 6.9 x 7.2

DESOZONE is Available from Spartan Environmental Technologies, LLC

Phone : 800-492-1252, Fax : 440-368-3569, e-mail : info@SpartanWaterTreatment.com

Web : www.SpartanWaterTreatment.com

Air to Treat (Nm³/h)	5,000	10,000	15,000	20,000
Air to Treat (SCFM)	3,125	6,250	9,375	12,500
O₃ Required (lb/day)	2.11	4.23	6.34	8.46
O₃ Generator Power (kW)	0.03	0.06	0.12	0.25
Total Power (kW)	0.9	1.2	2.8	3.6
Compressed Air (SCFM)	3.1	6.3	9.4	12.5
Blower Power (kW)	.5	.75	1.5	2.2
Recycle Pump Flow (gpm)	44	88	132	176
Recycle Pump Power (kW)	0.3	0.3	1.1	1.1
Cooling Water Flow (gpm)	0.35	0.70	1.06	1.41
Dried Air flow (SCFM)	1.25	2.50	3.75	5.00
Dimensions (ft)	6.6 x 18 x 7.2	6.6 x 18 x 7.2	7.5 x 18 x 7.2	7.5 x 18 x 7.2



Process Flow Sheet for DESOZONE Single Stage Scrubbing System

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