

Chemical Package System

IMS' Chemical Package System is a multi-stage high efficiency scrubber capable of promoting different chemical reactions in each stage and targeting a range of different compounds found in municipal STPs and Pump Stations. The system is designed to be compact and low profile, enabling indoor or outdoor installation. IMS' chemical scrubber system is completely factory assembled for ease of installation treating airflow capacities up to 40,000 m³/h in a single system.

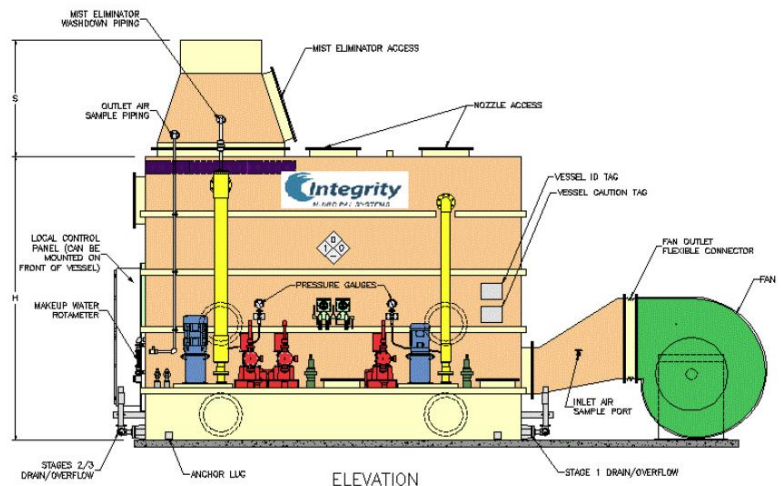
IMS' CPS odor control system is a "once-through", two-stage absorption system consisting of a gas conditioning / pre-treatment stage followed by two vertical co-current/counter-current gas absorption sections.

Advantages

- Reliable in the long term with robust design
- Minimized footprint and height required for the scrubber system and associated pumps and piping and ductwork.
- Provides flexibility to customize the chemistry of each stage, to optimize the operating chemistry for actual plant odors, and to respond to process variations.
- Will make optimum use of chemical and minimize chemical costs.
- Will be delivered and installed quickly and smoothly, with minimum construction and installation cost and time.
- Will not require downtime for routine calibration and maintenance.
- Provides maximum value measured by effective odor control with minimum problems, maintenance and operating cost



CPS-3500



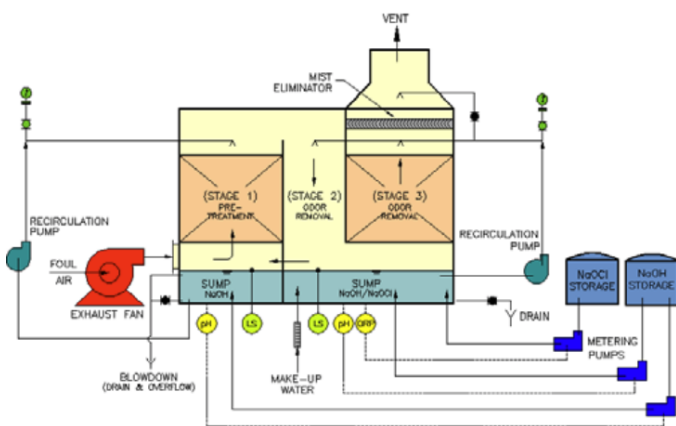
General Arrangement Elevation View Drawing

Major Components

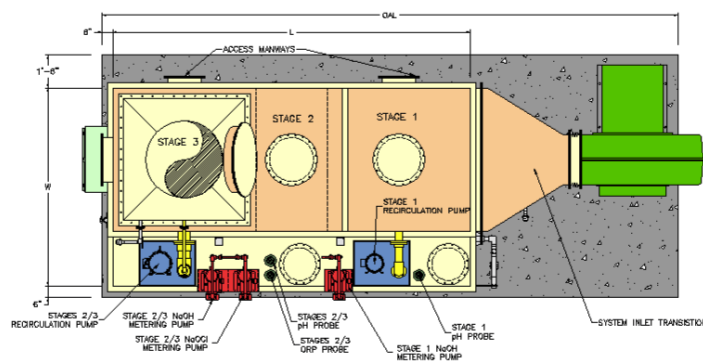
• FRP Air Supply Fan	• Exhaust Stack
• FRP Vessel Inlet Transition Piece	• PP Chemical Recirculation Pumps (vertical seal-less pumps)
• FRP Two-Stage Scrubber System	• NaOH and NaOCl Metering Pumps
• Two Counter-Current Stage Gas Absorption System	• Control Panel with Motor Starters
• Two Integral Chemical Sumps	• pH, ORP and Level Controls
• Packing Media, Nozzles and Mist Eliminator	• Pressure & Differential Pressure Gauges
• Internal Piping and Access Doors	

How it Works

The system utilizes Sodium Hydroxide (NaOH) and Sodium Hypochlorite (NaOCl) to react with and remove the odorous compounds present in the airstream. The foul air first enters a pre-conditioning stage (Stage 1) where it is contacted with liquid from the Stage 1 sump in a counter-current arrangement. The Stage 1 sump consists of a solution of fresh Sodium Hydroxide (NaOH) used to maintain the set pH. In the first stage, approximately 70 to 80% of the inlet H₂S is removed. This configuration minimizes chemical costs by significantly reducing the amount of Hydrogen Sulfide that reacts with Sodium Hypochlorite. After treatment by the first stage, the air travels through an integral baffle and enters the second counter-current scrubbing stage. In the second stage, the air is contacted with a water solution supplemented with a controlled amount of injected NaOH and NaOCl. This final stage assures the remaining odorous compounds are oxidized. Finally, the “scrubbed” air is discharged from the system through a mist eliminator and into the atmosphere.



Process & Instrumentation Diagram



General Arrangement Plan View Drawing

Chemical Package System Design Information

Model	Airflow Rate M ³ /hr	Dimension L x W x H (mm)	Overall Length (mm)	Shipping Weight (kg)	Operating Weight (kg)	Fan Motor (kw)	Recirc Pump Motors (kw)
CPS-2250	3700	2060 x 1450 x 2820	3810	1100	3200	5.6	5.9
CPS-2500	4600	2290 x 1520 x 2900	3960	1400	3600	5.6	5.9
CPS-2750	5600	2520 x 1600 x 2900	4570	1700	4300	5.6	7.4
CPS-3000	6800	2740 x 1680 x 3200	4720	2000	5000	7.5	7.4
CPS-3500	9300	2670 x 1830 x 3350	4880	2300	5500	11.2	7.4
CPS-4000	12100	3050 x 1980 x 3350	5330	2500	6600	12.2	9.3
CPS-4500	15500	3430 x 2130 x 3430	5940	2800	7700	14.9	9.3
CPS-5000	19000	3810 x 2290 x 3500	6250	3100	8900	18.6	11.2
CPS-5500	23100	4190 x 2440 x 3580	6710	3400	10000	22.4	13.1
CPS-6000	27500	4570 x 2590 x 3660	7320	3800	11600	29.8	13.1
CPS-6500	34000	4950 x 2740 x 3730	7930	4100	13000	37.3	18.7
CPS-7000	41600	5330 x 2900 x 3810	8230	4500	14500	44.7	26.1

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