



## WATER TREATMENT

At Avlon Inc., we are driven by a singular vision – delivering smart, sustainable, and scalable engineering solutions that address the critical needs of water, energy, and environment. With a proven track record across the Philippines and Southeast Asia, we specialize in technologies that serve industries, communities, and the planet.

Avlon's industrial pollution control technologies include wet scrubbers, bag filters, and electrostatic precipitators. These systems are built to reduce air emissions, protect worker health, and ensure compliance with environmental regulations.



## Who We Are

### About Us

With over 35 years of expertise in wastewater treatment plant, air pollution control equipment's, industrial steam boiler including power plants and oil refinery design, engineering, construction and commissioning, AVLON has been a trusted industry leader since 1980. Renowned for excellence, we have played a key role in pioneering projects across India's oil and refinery sector, setting new standards in quality and innovation.

In 2015, AVLON expanded its operations to the Philippines, establishing itself as a premier integration contractor in the Energy and Environmental Sector. We operate with a strong infrastructure, including state-of-the-art heavy lifting and construction tools, a full-scale fabrication shop, a vast warehouse, and an advanced design and engineering facility.

With a commitment to excellence and innovation, AVLON continues to lead the way in shaping the future of the Energy and Environmental Sector in Philippines.

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## Avlon's Advanced Cyclone Dust Collection Technology

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Cyclone dust collectors are widely used mechanical air pollution control devices designed to remove coarse particulate matter and heavy dust particles from industrial exhaust streams. Many industrial processes such as cement production, grain handling, woodworking, biomass combustion, and metal processing generate large quantities of dust that must be removed before the exhaust air is released into the atmosphere. Cyclone separators are particularly effective for handling dry, non-sticky particulate matter with relatively large particle sizes, making them an ideal pre-cleaning stage before secondary filtration systems or as standalone collectors in applications with moderate dust loading.

The operating principle of a cyclone dust collector is based on centrifugal force separation. Dust-laden air enters the cyclone body through a tangential inlet, which creates a high-velocity spiral motion inside the cylindrical chamber. As the air rotates downward through the conical section of the cyclone, centrifugal forces push the heavier dust particles outward toward the inner wall of the cyclone body. Once the particles lose their momentum due to friction and gravity, they slide down along the wall and collect in a hopper located at the bottom of the unit.

While the dust particles are forced toward the outer walls, the cleaned air forms an inner vortex that moves upward through the center of the cyclone and exits through the outlet duct at the top. The efficiency of the cyclone separator depends on several design parameters, including air velocity, cyclone diameter, inlet configuration, particle size distribution, and residence time of the gas stream. Properly designed cyclones can effectively remove particles larger than 10 microns, significantly reducing particulate loading before further air treatment processes.



Avlon's Cyclone Dust Collectors are engineered with optimized aerodynamic design, heavy-duty steel construction, and precision inlet geometry to achieve high dust separation efficiency while maintaining low pressure drop. Our systems can be customized for different airflow capacities and dust characteristics, ensuring reliable performance across various industrial applications. With extensive experience in air pollution control systems, Avlon delivers cyclone collectors that integrate seamlessly with downstream equipment such as bag filters and wet scrubbers, ensuring full compliance with the Philippines Clean Air Act (RA 8749) and long-term environmental protection.

