



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.

In water treatment, we offer advanced filtration, softening, disinfection, and reverse osmosis systems designed for industrial and institutional applications. These systems ensure consistent water quality while optimizing resource use and operating costs.



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 Pressure Sand Filtration Technology

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Pressure Sand Filtration is one of the most widely used tertiary treatment processes for removing suspended solids, turbidity, and fine particulate matter from water and wastewater. Even after biological or chemical treatment processes, treated water may still contain small particles that affect clarity and downstream equipment performance. A Pressure Sand Filter operates as a depth filtration system, where water passes through a bed of graded filtration media that captures and retains suspended contaminants. This process significantly improves water clarity and reduces turbidity before further treatment or reuse.

In a typical PSF system, wastewater enters the filtration vessel under pressure and flows downward through multiple layers of filtration media. The filter bed usually consists of graded quartz sand supported by layers of gravel, which help distribute the flow evenly and prevent media migration. As the water passes through the media bed, suspended particles become trapped within the pores of the sand through a combination of mechanical straining, adsorption, and sedimentation within the filter matrix. The filtered water is then collected through an underdrain system and discharged for further treatment. □ □

Over time, the filter media accumulates trapped solids, which gradually increase the pressure drop across the filter bed. To restore filtration efficiency, the system undergoes a backwashing cycle, where water (and sometimes air) is pumped upward through the filter bed to dislodge and remove accumulated particles. The dirty backwash water is discharged to a drain or returned to the treatment system. Proper backwash design is essential to maintain filter performance and extend the service life of the filtration media.



Avlon's Pressure Sand Filters are engineered with high-strength pressure vessels, optimized media grading, efficient underdrain systems, and automated backwash control panels to ensure reliable operation and consistent filtration performance. Our modular filtration systems can be integrated seamlessly with upstream processes such as Lamella Clarifiers and Dissolved Air Flotation units, and downstream treatment systems such as Activated Carbon Filters or Reverse Osmosis plants. With extensive experience in industrial water and wastewater treatment installations, Avlon delivers robust PSF solutions that provide dependable turbidity removal while meeting the stringent requirements of DENR effluent discharge standards.

