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.

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Solutions Within...

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 Reverse Osmosis (RO) Membrane Technology

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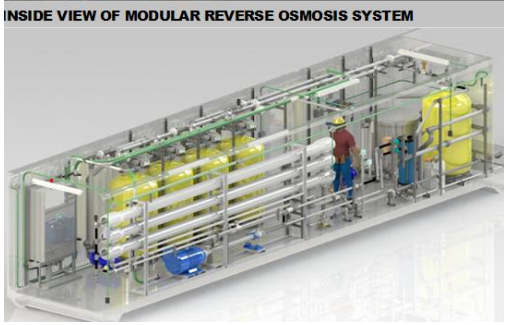

Reverse Osmosis is a highly advanced membrane-based separation technology used to remove dissolved salts, heavy metals, organic compounds, microorganisms, and other dissolved impurities from water. The process operates on the principle of reversing the natural osmotic flow by applying external pressure to overcome osmotic pressure across a semi-permeable membrane. This allows purified water to pass through the membrane while rejecting dissolved contaminants. Reverse osmosis is widely used in applications such as seawater desalination, industrial process water treatment, boiler feedwater preparation, pharmaceutical-grade water production, and wastewater reuse systems.

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In an RO system, feed water is pumped at high pressure into pressure vessels containing spiral-wound semi-permeable membranes. These membranes allow only water molecules to pass through while rejecting most dissolved salts, organic molecules, bacteria, and viruses. The treated water that permeates the membrane is known as permeate, while the concentrated stream containing rejected contaminants is called reject or brine. Modern RO membranes are capable of achieving Total Dissolved Solids (TDS) rejection rates exceeding 95–99%, producing extremely high-quality water suitable for demanding industrial applications.

To ensure reliable membrane performance, RO systems require carefully designed pretreatment stages. Pretreatment typically includes filtration processes such as pressure sand filters, multimedia filters, activated carbon filters, and ultrafiltration systems to remove suspended solids, chlorine, and organic contaminants that could damage the membranes. Anti-scalant chemicals may also be dosed to prevent mineral scaling. In addition, periodic clean-in-place (CIP) chemical cleaning cycles are used to remove fouling and restore membrane permeability.

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Avlon's Reverse Osmosis Systems are engineered with high-efficiency pumps, premium spiral-wound membranes, automated monitoring and control systems, and optimized energy recovery designs to deliver consistent and reliable water purification. Our modular RO plants are designed for seamless integration with upstream water treatment processes and can be customized for various capacities and water qualities. With extensive experience in industrial and municipal water treatment projects, Avlon provides robust RO solutions that deliver superior water purity while supporting compliance with industrial water quality standards and sustainable water management practices.

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