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## WASTEWATER 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.

Our wastewater treatment solutions are engineered to meet stringent DENR DAO 2016-08, as amended by DAO 2021-19 regulatory standards while ensuring efficient, low-maintenance operations. From MBBR to electrocoagulation and DAF systems, we provide customized treatment processes that safeguard water bodies and public health.



## 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.

**Web: <https://avlon-php.com>**

**Email: [hello@avloninc.com](mailto:hello@avloninc.com)**



## Avlon's Advanced Sludge Dewatering Technology – Screw Press Filter

AVLON INC, UNIT 3B, KAVI  
BUILDING, E. RODRIGUEZ, JR. AVE,  
BAGUMBAYAN, QUEZON CITY, 1110  
METRO MANILA, PHILIPPINES



Sludge generated from biological, chemical, and physical wastewater treatment processes contains a high percentage of water, often exceeding 95–99% moisture content. Handling and disposing of such high-volume sludge can significantly increase transportation, storage, and disposal costs. The purpose of sludge dewatering is to reduce the water content of sludge, thereby converting it into a semi-solid cake that is easier to handle, transport, and dispose of. Avlon's Screw Press Sludge Dewatering Machine is specifically designed to achieve efficient solid-liquid separation while maintaining low energy consumption and minimal operational complexity.

Before entering the screw press dewatering unit, sludge typically undergoes chemical conditioning using polymer dosing. This conditioning step promotes the aggregation of fine sludge particles into larger flocs, improving their ability to release water during the mechanical compression stage. The conditioned sludge is then fed into the screw press through a feed pump and enters the gravity thickening zone, where free water is initially drained through the filtration gaps between fixed and moving rings.

As the sludge progresses through the machine, it moves into the compression zone, where a slowly rotating screw shaft gradually reduces the internal volume of the filtration chamber. The narrowing pitch of the screw increases pressure on the sludge, forcing water to escape through the filtration slots while retaining solid particles. The alternating fixed and moving ring structure continuously shifts during operation, creating a self-cleaning effect that prevents clogging and allows stable long-term operation even with sludge containing high organic content.



Avlon's Screw Press Sludge Dewatering Systems are engineered with corrosion-resistant stainless-steel construction, automated polymer dosing systems, variable-speed drives, and intelligent control panels for optimized performance. The equipment operates at low rotational speeds, resulting in reduced energy consumption, minimal noise, and lower maintenance requirements compared to centrifuge-based systems. With extensive experience in supplying sludge management systems for municipal and industrial wastewater treatment plants, Avlon delivers reliable dewatering solutions that reduce sludge volume, lower disposal costs, and support compliance with DENR environmental discharge regulations.

