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 the energy sector, we develop coal and biomass-based power plants with emphasis on low emissions and high performance. Additionally, our waste-to-energy (WtE) power plants convert municipal and industrial waste into valuable energy, promoting circular economy principles.

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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 Horizontal Steam Boiler Technology

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

The PackMax PMH Series boilers are high-performance horizontal three-pass fully wet-back steam boilers designed to deliver superior efficiency, operational stability, and long service life for demanding industrial applications. In this configuration, the combustion chamber is completely surrounded by water, allowing efficient absorption of radiant heat and minimizing thermal stress on the boiler structure. The three-pass flue gas path ensures that heat from the combustion gases is fully utilized before exiting the stack, significantly improving thermal efficiency while maintaining stable steam production under varying load conditions.

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In the PMH Series design, fuel combustion takes place inside the furnace where radiant heat is transferred directly to the surrounding water. The hot flue gases then pass through the second and third passes of fire tubes located within the boiler shell, where convective heat transfer further converts water into steam. This staged heat transfer process allows the boiler to achieve high thermal efficiency levels of up to 95%, while the integrated insulation system minimizes heat loss to the environment. The fully wet-back construction also eliminates the need for refractory-lined rear doors, reducing maintenance requirements and improving overall durability.

To ensure precise combustion control, PackMax PMH boilers are equipped with high-performance Baltur burners manufactured in Italy, which are globally recognized for their reliability and advanced combustion technology. These burners feature low NOx combustion systems, high turndown ratios, precise fuel atomization, and automatic modulation control, enabling the boiler to respond efficiently to fluctuating steam demand. The advanced burner design ensures clean combustion, improved fuel efficiency, and reduced emissions, making the system environmentally responsible while maintaining high operational performance.

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Avlon's PMH Series boilers are integrated with modern automation and safety control systems, including touchscreen HMI interfaces, Modbus communication capability, and variable speed drives for combustion air fans and feedwater pumps. Comprehensive safety features such as flame failure protection, low water level cut-off, pressure safety valves, and automatic shutdown interlocks ensure reliable and safe operation. Designed and manufactured in accordance with Philippine Department of Labor and Employment (DOLE) safety regulations and DENR Clean Air Act requirements, PackMax PMH boilers provide industries with a dependable steam generation solution that combines efficiency, safety, and environmental compliance.

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