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 Advanced FireMax – FML Series Hybrid Steam Boiler Technology

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

The FireMax FML Series boilers are high-capacity hybrid steam boilers combining water tube furnace technology with smoke tube heat recovery, specifically designed for industries requiring large and stable steam production. The external furnace configuration allows efficient combustion of a wide variety of solid fuels while protecting the main boiler shell from direct flame exposure. This hybrid design provides the combined advantages of water tube boilers—rapid heat absorption in the furnace—and smoke tube boilers—large water holding capacity and stable steam output.

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The combustion process begins in the external water-cooled membrane wall furnace, where solid fuels such as coal, rice husk, bagasse, wood chips, lignite, and other biomass materials are burned. The furnace walls consist of closely spaced water tubes welded together to form membrane panels, which absorb intense radiant heat directly from the combustion chamber. This radiant heat transfer rapidly converts circulating water into steam within the water wall tubes while simultaneously maintaining stable furnace temperatures and improving overall combustion efficiency.

After the primary radiant heat transfer stage, the hot flue gases enter the smoke tube boiler shell, where they pass through two additional banks of fire tubes. These second and third passes enable efficient convective heat transfer from the flue gases to the water contained within the boiler shell. The large steam-water interface area inside the shell ensures stable steam generation and allows the boiler to deliver high-quality steam with dryness levels approaching 98%, even during fluctuating load conditions commonly encountered in industrial processes.

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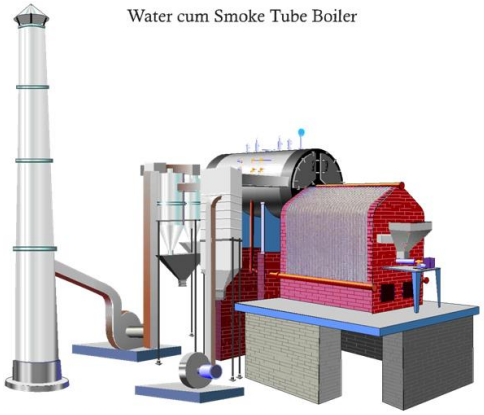
Water cum Smoke Tube Boiler



Avlon's FireMax FML Series boilers are engineered with advanced fabrication techniques, precision membrane wall construction, and optional automation systems including automatic ash handling, automatic ignition systems, and online tube cleaning mechanisms. These features ensure reliable long-term operation while reducing operator workload and maintenance requirements. Designed in compliance with industrial boiler safety standards and Philippine regulatory requirements, the FireMax FML Series provides industries with a durable, fuel-flexible, and high-capacity steam generation system capable of supporting continuous and demanding process operations..

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