



WATER TREATMENT TECHNOLOGIES: AIR STRIPPING SYSTEMS



WATER MANAGEMENT

- + SOURCING
- + WELL & PUMP MAINTENANCE
- + WATER TREATMENT TECHNOLOGIES
- + WATER RECYCLE & REUSE
- + WATER TRANSFER
- + WATER STORAGE

CONSTRUCTION

- + GEOTECHNICAL CONSTRUCTION
- + TREATMENT PLANT CONSTRUCTION
- + ALTERNATIVE DELIVERY
- + RENEWABLE ENERGY
- + SEWER SYSTEMS
- + TRENCHLESS REHABILITATION
- + WATER SUPPLY
- + WATER TRANSMISSION & DISTRIBUTION

DRILLING

- + EXPLORATION DRILLING
- + SPECIALTY DRILLING
- + WATER WELLS
- + BOREHOLE SERVICES

Volatile Organic Compounds (VOCs) are organic chemical compounds with significant vapor pressures and can affect the environment and human health. Exposure to VOCs and dissolved gases in water presents a long list of significant health risks and can affect pH levels in water. The USEPA has imposed strict maximum contaminant levels (MCLs) to assure public safety and the list of VOCs are numerous and varied. Dissolved gases such as carbon dioxide (CO₂), radon and hydrogen sulfide (H₂S) can also be effectively treated.

Layne was a pioneer in the concept of packed column air strippers for the removal of VOCs and dissolved gases from potable water through an aeration process in the 1970's. Today Layne is the largest manufacturer of air stripping towers for potable water use in the US with over 400 installations. Custom designed and pre-engineered tower systems are available in a wide variety of sizes and materials. A wide variety of packing media are also available for the most efficient removal of contaminants.

EVALUATION OF SITE CONDITIONS

Understanding the contaminants of concern has an impact on the design parameters and materials of construction of an air stripping system. Layne understands the design, construction and operational costs of infrastructure and provides informed analysis of the costs and benefits of different solutions.

PRE-ENGINEERED OR CUSTOM DESIGNED SYSTEMS

Custom designed and pre-engineered units are available for flow rates from a few gallons per minute to 5,000 gpm. A custom designed system can take from twelve to fourteen weeks to construct. Pre-engineered systems, however, can reduce engineering costs by 25% and can cut production time by 30% or more. Layne manufactures all equipment in its ASME certified facility which allows for maximum efficiency and flexibility of fabrication.

PILOT PLANT SYSTEMS AND TESTING SERVICES

Layne utilizes superior packing exhibiting high removal efficiency accompanied by low hydraulic energy loss. The design of the forced draft blower is based on the most efficient air-to water ratio and head loss through the column. The blowers are designed for energy efficiency, quiet operation and outdoor use.

INSPECTION AND MAINTENANCE

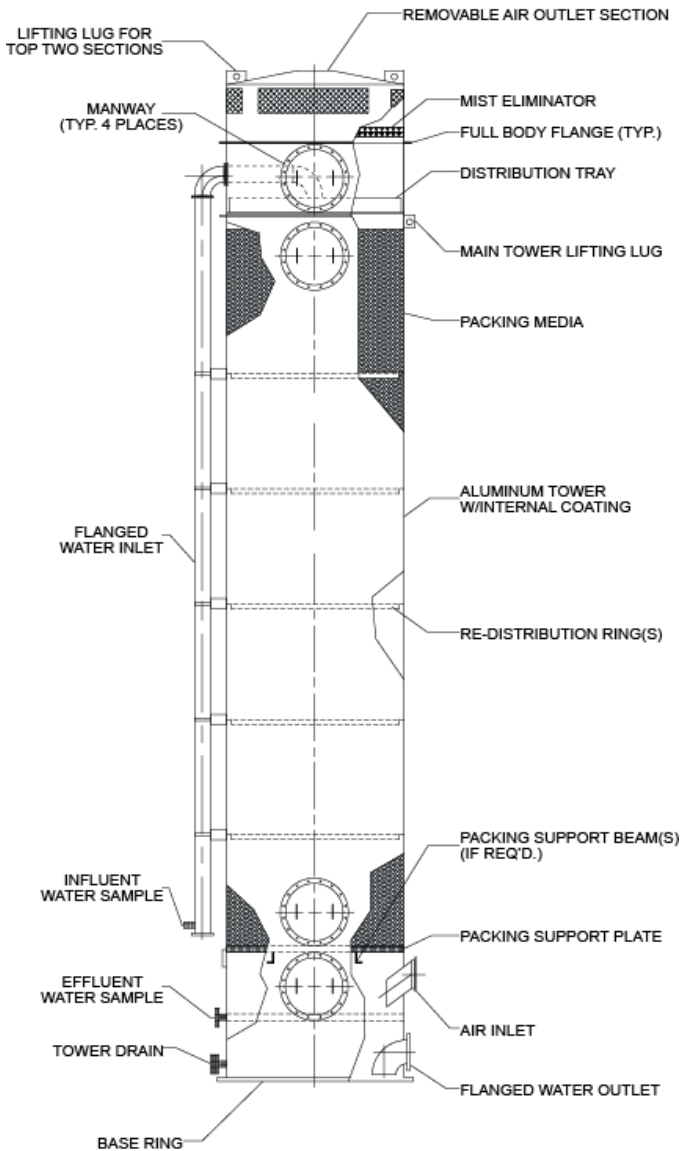
Layne's service continues with life-cycle programs such as air stripper re-packing to provide fully sustainable systems. Layne's after-sale service program lets us bring our treatment expertise directly to you, saving you time and keeping your system performance at a high level while protecting your investment.





AIR STRIPPING SYSTEMS (CONT)

AIR STRIPPER EXAMPLE



Note: Tower shown is a sample. Numerous configurations are possible for size and placement of various elements.

STANDARD SYSTEMS

- + Tower shell
- + Polypropylene packing media
- + Stainless steel orifice distributor
- + Polypropylene mist eliminator
- + FRP packing support tray
- + Attached stainless steel influent piping
- + Access manways
- + Centrifugal blower
- + Ductwork

OPTIONS FOR TOWER MATERIAL

- + Aluminum
- + Coated carbon steel
- + Stainless steel
- + Fiberglass reinforced plastic (FRP)

OPTIONAL FEATURES

- + Installation and startup services
- + Ladder/platform assemblies
- + Induced draft configuration
- + Treatment of off gas
- + Air inlet filters
- + Silencers
- + Booster pumps
- + Control systems to interface with existing systems
- + Foundations
- + Cleaning systems
- + Complete battery limit systems

