

## Product Description

Eva® technology was created in response to the growing challenges facing companies as they confront increasing costs and impending state regulations on their wastewater disposal. Eva will help to dramatically reduce wastewater transportation from disposal wells, recycling facilities, and off-site treatment. Eva units are skidded, portable, and harness direct flame evaporation technology onsite to treat high TDS waters while reducing wastewater volumes in operations. Direct flame evaporators utilize wellhead gas to drive a significantly lower cost compared to mechanical vapor recompression devices. Eva technology can reduce wastewater volumes by as much as 99% and concentrate the feed water up to 250,000 ppm TDS.

## Process Description

Feed water flows through an annulus at the top of the reaction chamber creating a thin film of water around the internal wall which is exposed within the reaction chamber to a direct flame. Up to 85-99% of volume of the feed water is vaporized into high quality steam and gas exhaust, which is expelled through the integrated separator/scrubber to the environment. Any residual organics found in the water source are oxidized in the burnchamber.

Within the separator, the solids and remaining waste water effluent are separated and expelled as a high TDS mixture of waste water effluent and solids out the rear of the unit, through a 2" line into a collection tank.

The process uses pipeline or wellhead quality gas as its thermal source. If using wellhead quality gas, the gas is conditioned prior to use in the process.

## Targeted Contaminants

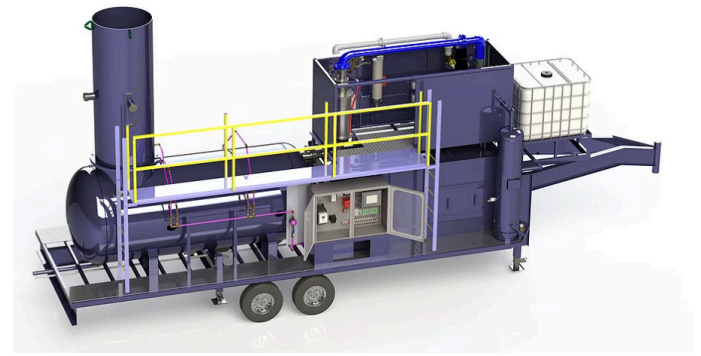
- High TDS feed water
- Landfill Leachate
- Produced water

## Frequent Applications

- Disposal Wells
- Recycling facilities
- Off-site treatment

## Emission Data

A source emissions survey of AbTech's EVA took place in Texas, on December 11-13, 2017. The purpose of these tests was to determine the concentrations of particulate matter being emitted into the atmosphere via the Evaporative Scrubber Stack. The tests were conducted with the help of a major oil company who had a set ton/year standard. The results of the test confirmed EVA's ability to adhere to these standards as Eva was able to achieve 1/5 th of the required ton/year standard.



## Product Specifications

Skid Dimensions	35' 6" L by 8'6" W with stack down for transportation 13'4" H with stack raised 4'
Skid Weight	16,000 lbs.
Collection Tank	975 gallons (23 bbl) 8'4 in diameter open top fiber-glass tank
Flow Rate Low (estimated)	4-7 gpm
Flow Rate High (estimated)	8-11.5 gpm
Gas Line	NPT 2" with regulator 12-15 psi SMM BTU/hr
Gas Supply	Wellhead, 15 lb; natural gas
Feed Water Line	NPT 2"
Power Supply	480VAC 3 Phase 100-amp service (60-70 amp operation)
Feed Water Pump	Centrifugal self priming
Control Panel	PLC with Ethernet
Flow Meter	Integrated ultrasonic flow meter
Feed Temperature	30-120
TDS	10,000 mg/l to 200,000 mg/l
Gas Usage	75,000-125,000 cfpd (Low to high operation)
Gas Pressure	>15 psi required (20+ psi preferred)
Power Consumption	21kw
Concentrate Waste	160-200 °F