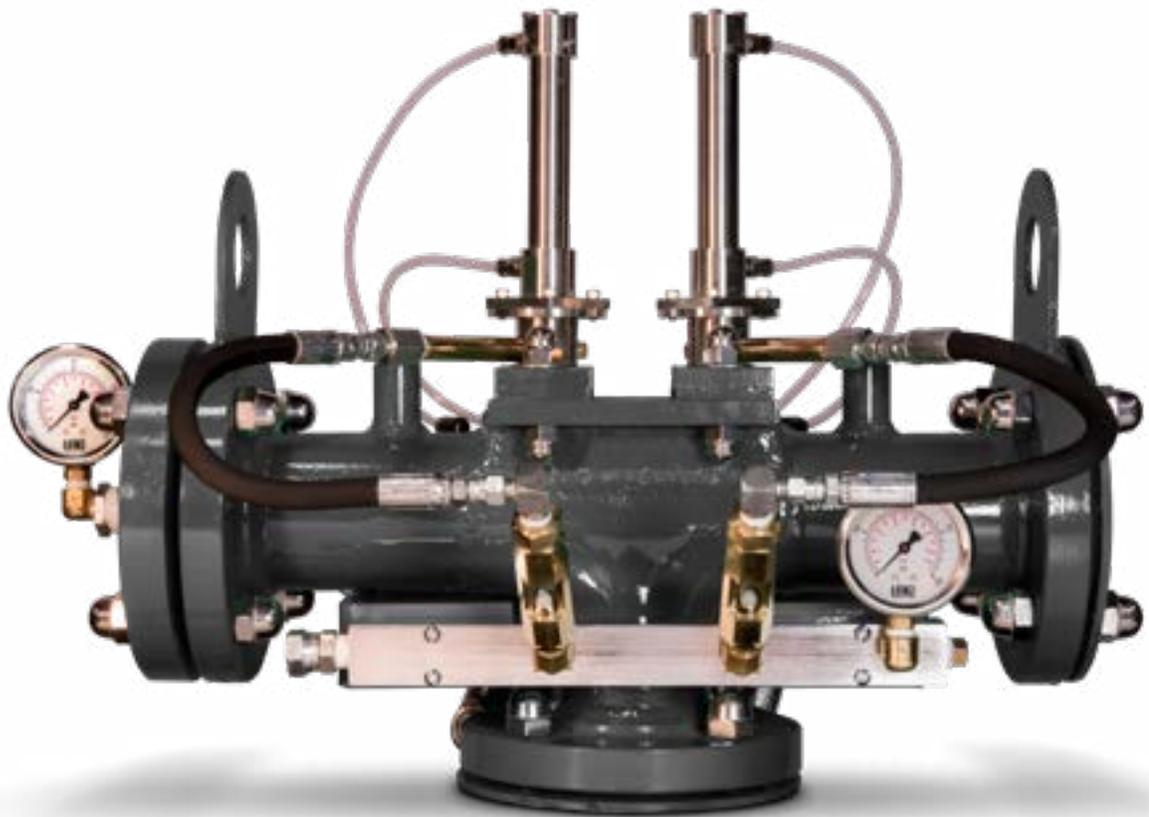


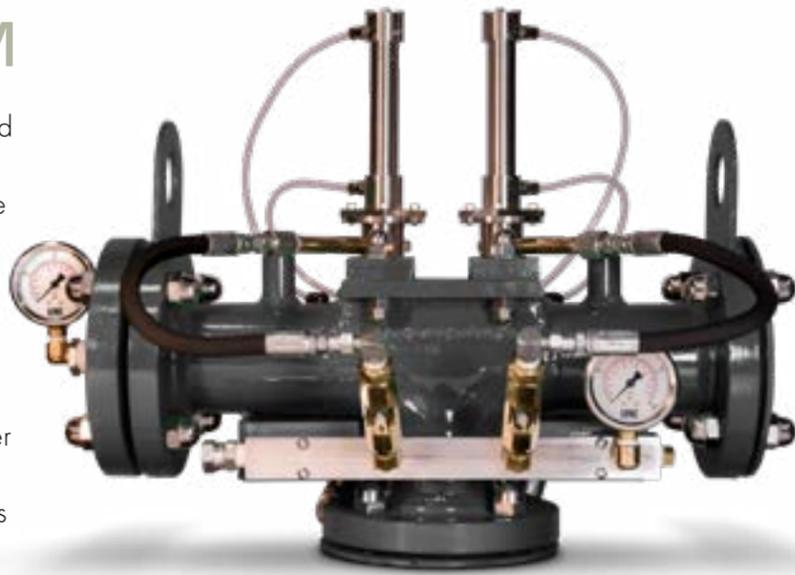
ASTECC WARM MIX SYSTEM



ASTECC

WARM MIX SYSTEM

The benefits of warm mix asphalt, such as reduced energy consumption, lowered emissions, and elimination of visible smoke, are well-known in the asphalt paving industry. Warm mix technology allows mix to be prepared and placed at lower temperatures than conventional hot mix. To achieve this, the viscosity of the liquid asphalt cement (AC) must remain low at the reduced temperatures. Maintaining a low viscosity at lower temperatures allows mix to flow freely through storage, transfer, and placement equipment and is more easily compacted.



The Astec warm mix system achieves a lower temperature at a lower cost by eliminating the need for additives or special asphalt cement. Instead, the Astec warm mix system injects a small amount of water into the liquid AC to create microscopic steam bubbles. These small bubbles reduce the viscosity of the liquid AC, allowing the mix to be worked at lower temperatures.

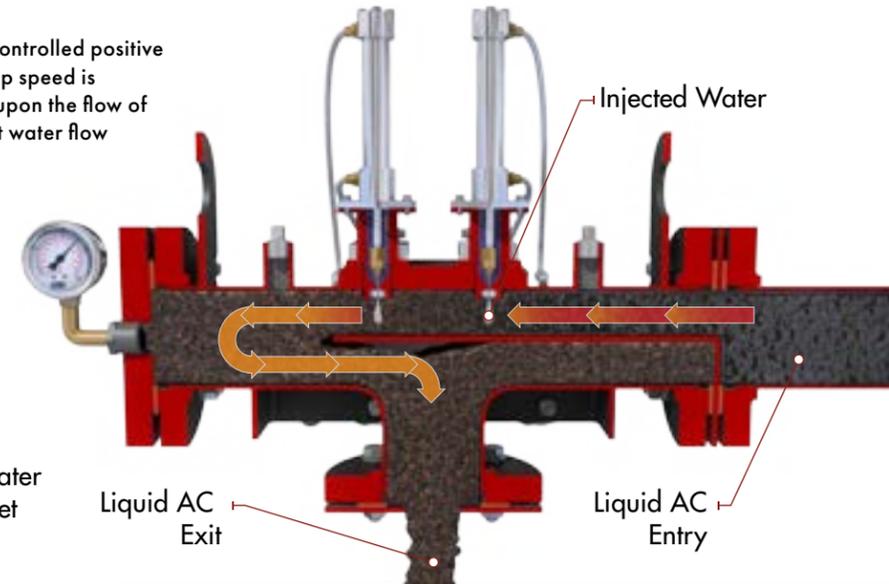
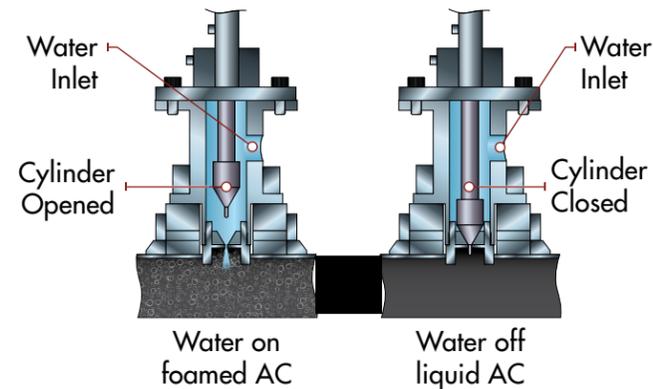
SOLENOID INJECTION

Water is accurately metered into the system by a feedback-controlled positive displacement piston pump. Using feedback controls, the pump speed is modulated to maintain the appropriate flow of water based upon the flow of the liquid AC. PLC controls provide for smooth and consistent water flow as production rates increase or decrease.

Water is injected into the liquid AC through two stainless steel water injectors which continuously inject high-pressure water into a foaming chamber.

AC MANIFOLD

Field-proven and highly reliable.



As the water is injected into the liquid AC, the water droplets quickly flash to steam, creating microscopic bubbles of steam that reduce liquid AC viscosity.

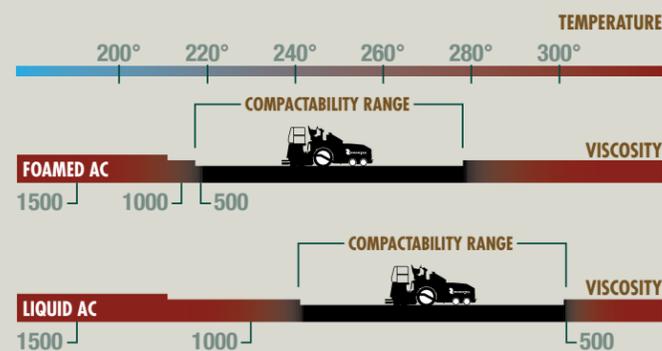
BETTER COATING

Foamed liquid AC has a greater volume, which allows it to cover a greater surface area, while using the same amount of liquid. This means that the liquid is better distributed over the aggregate. Lower mix temperatures can also increase maximum production rate.



LESS OXIDATION

Producing asphalt mix at lower temperatures leads to less oxidation, resulting in longer pavement life. Every 25°F increase in temperature doubles the rate of oxidation of liquid AC.



BLUE SMOKE REDUCTION

In the silos pictured below, the left silo contains traditional hot mix asphalt. The right silo contains asphalt mixed at lower temperatures using the Astec warm mix system. It is apparent that there is less blue smoke coming out of the right silo. Less blue smoke means less visible emissions and reduced odor.

The lower amount of blue smoke is not only applicable to the asphalt when it is exiting the silos, but also at the job site where the asphalt is being laid.



WATER RESERVOIR

A skid-mounted, corrosion-free water reservoir is included with warm mix system packages. An optional cold weather package is available to prevent damage to components during cold weather operations. If supply water is lost, then a low-water alarm alerts plant personnel, so the problem may be resolved quickly without wasting mix. Water reservoir systems are sized based on customer needs.





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