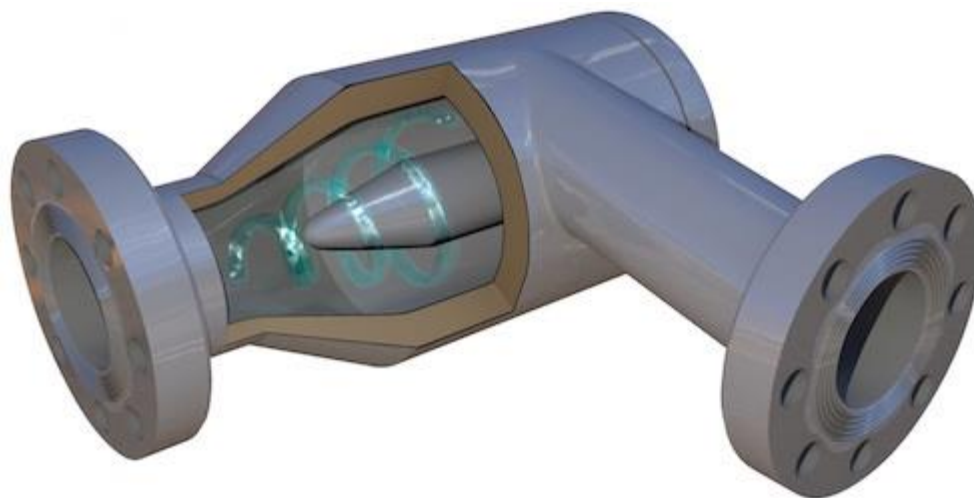




Vortex Tools: Cost-Effectively Reducing Vapors At Production Tanks

In these lean oil and gas times, Vortex Tools offer lower costs, improved oil production, increased gas to sales, and reduced glycol/chemical use—all with no maintenance at an affordable price—with the *Vapor Buster* tool. This *Vapor Buster* Vortex tool is designed and built to allow operators to cost-effectively manage air quality issues while avoiding fines.



Vapor Buster tool shown with flanged connections

One of Vortex's Texas customers uses the nicknamed "*Vapor Buster*" Vortex tool to cost-effectively manage wellhead vapors at their production tanks. Installed in the liquid leg between the high-pressure separator and the heater-treater (can also be set at the tree), this *Vapor Buster* spins and removes entrained gas/water vapors and increases free water knock-out. The spiraling motion imparted by the Vortex tangential inlet tool spins entrained gas out of the oil. This leads to better separation of oil and water with lower emulsions and reduced need for chemicals.

Specific benefits recorded by customer using this tool:

- Takes gas out of liquids; gas sent to sales line/compression instead of to flare and waste.
- Recovers condensate from tank vapors; increased production and minimal flare.
- Reduces pollution and vapors; maximizes oil recovery; compliant with air quality regulations.
- Low Reid Vapor Pressure (RVP) confirmed (5.64 psi) after Vortex.
- Reduces glycol use (by 80%); increased free water and water vapor removal.

Vortex provides a cleaner oil cut (with lower emulsion), reduced gas reported at production tanks, improved/lower RVP, and drier gas sent to sales, resulting in lower glycol use. This customer also reported increased oil production, less BS&W trash, and minimal gas to flare. The reduction in glycol use is significant—with 80% lower glycol use reported when used with Vortex's *Vapor Buster*. In addition, this customer reported all production tank batteries with the Vortex *Vapor Buster* tool to be in compliance with air quality regulations. A second customer used this same configuration to recover an additional two barrels of oil per day from 2,000 BTU flash gas previously sent to flare.