



# MUELLER ENVIRONMENTAL DESIGNS INC.

## MED MODEL VTS



The MED Model VTS Waste Tank Vent Mist Extractor for pipeline suction scrubber sump vent applications is designed to remove entrained lubricating, condensation, water and other fluids from venting natural gas over a wide range of discharge exhaust flows. Its principle of operation is simple and has no moving parts. As natural gas and entrained fluids enter the VTS via the inlet nozzle, flow impinges on two stages of separation removing the entrained lubricating fluid and ultimately venting clean gas to the atmosphere.

When the suction scrubber sump vent valve is opened manually, the operator has a tendency to just pinch the valve open, allowing a very little amount of gas and fluid to vent to the waste tank. During this type of operation, the 1st stage separating element acts as a coalescer. A coalescer works on the principle of direction change. As gas and fluids flow through the coalescer element, it changes direction several times. Any fluid is caught on the knitted wire of the mesh pad and flows down to the bottom of the element where it is held in place by surface tension. Eventually the coalesced fluid becomes a large enough droplet to overcome the surface tension and up flowing gas velocity to fall into the liquid holding sump.

When the suction scrubber sump vent valve is opened 100% - manually or automatically, gas and fluid vent through an orifice at pipeline upstream pressure. This venting function allows for high flowing vent conditions. During this type of operation the 1st stage separating element acts as an agglomerator. As gas and fluid flow through the coalescer element, it changes direction several times. The lubricating fluid is caught on the knitted wire of the mesh pad and flows to the top of the element due to the up flowing gas velocity. The longer the vent valve is opened, greater the vent flow. This increased velocity, due to increased flow, carries the agglomerated lubricating fluid to the 2nd stage centrifugal separator. The centrifugal separator slings the liquid particles to an inner shell wall where, due to sheeting action, lubricating fluid flows into side wall traps. Once the lubricating fluid is between the inner and outer shell, it falls, due to gravity forces, into the fluid holding sump.