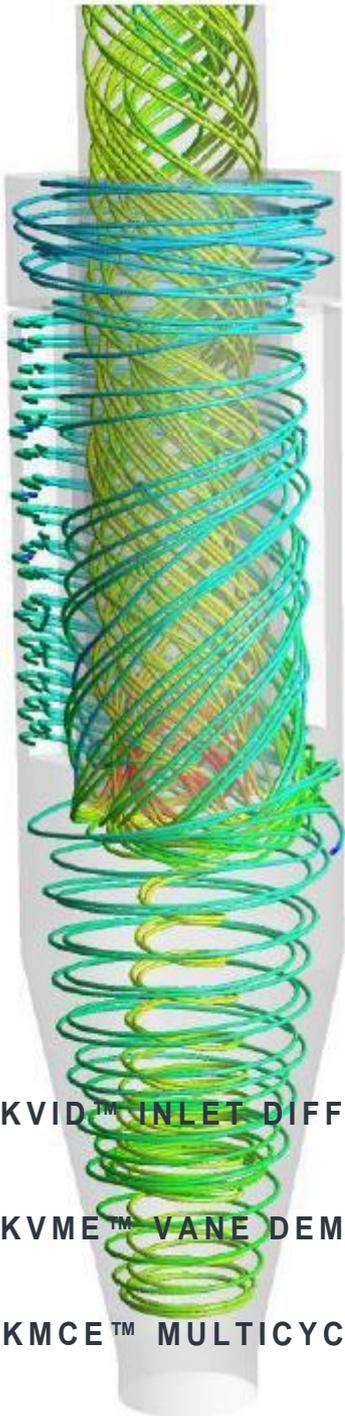


Pipeline Scrubber Solutions

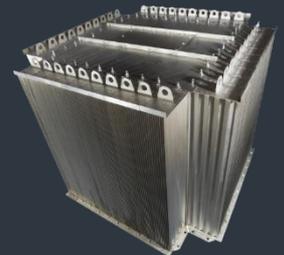


KVID™ INLET DIFFUSERS

KVME™ VANE DEMISTERS

KMCE™ MULTICYCLONES

KSME™ SWIRLTUBES



GAS CLEANING TECHNOLOGIES TO MATCH YOUR APPLICATION

Gas Pipeline Scrubbers are widely used to remove liquid mist, slugs or solid particle residues that form within long, transmission or distribution lines due to changes in temperature, pressure and elevation. Our Gas Scrubbers have been developed as a cost-effective and easily maintained solution for the problem of treating gas streams, removing >99% of contaminants across a wide turndown range. All our internals are normally removable for easier maintenance and repair.

We have a wide range of effective separation technologies to draw upon for each specific application, depending on the flow characteristics. Hundreds of installations are in service world-wide with **KIRK's Inlet Diffusers, Vane Packs, Multicyclones and Swirltubes** cleaning gas containing liquid mist and frequently contaminated with solids. Benefits include low pressure drop options combined with excellent removal efficiency, which is also being removable for servicing as required. A variety of vessel nozzle configuration options is also possible as illustrated overleaf, to match installation pipework.



practical
solutions

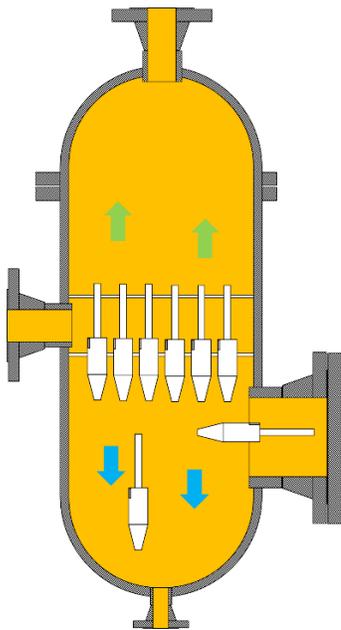
Pipelines used for the transport of natural gas will often contain solid and liquid contaminants that cause numerous maintenance and operational issues. Solids can include black powder, sand, rust and general corrosion or erosion debris. Liquids can be condensed water or light hydrocarbons, as well as glycols or methanol injected for corrosion or hydrate inhibition.

A well designed treatment solution may need to cater for variations in gas pressure, density and flow, whilst being capable of removing dry solids, wet solids, liquid slugs or liquid mist of unpredictable composition.

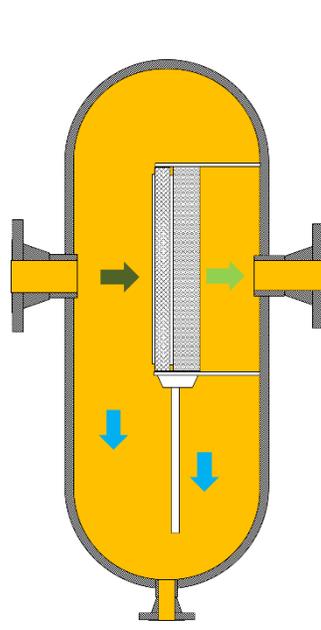
Often a combination of separation devices is required to meet these challenges.

Drawing upon our specialist range of internals, KIRK Process Solutions products are well proven in service, removing down to 5-10 microns or better and providing maximum on-stream uptime. Layouts are commonly in-line (opposite), in-line (staggered) or side inlet / top outlet. The arrangements can also be used in combination with separate KO drums or Filters for full flexibility.

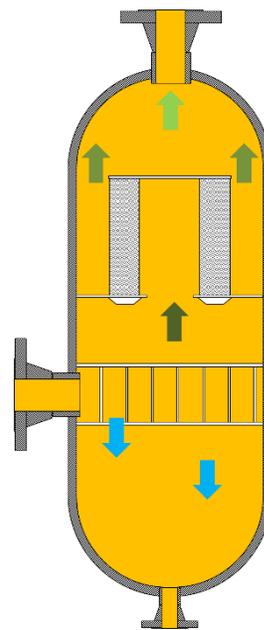
Pipeline Scrubber Solutions



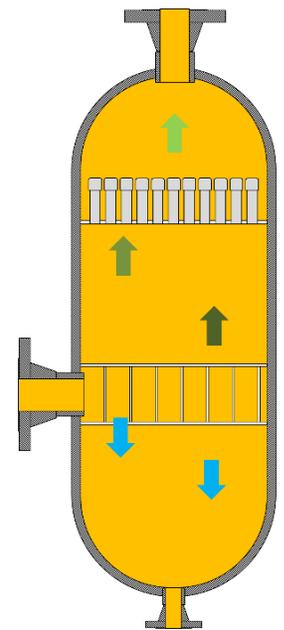
KMCE Multicyclones installed between 2 seal plates can be partially or wholly removable. They cope well with dry or wet solids and handle small quantities of entrained liquid mist.



In-line **KVP** Vane Pack arrangements suit applications with light liquid mist loads and can handle some solids in the mix. For clean service a mesh pre-coalescer is added for even better performance.



For higher liquid loads or slugs a 2 stage procedure is used, with **KVID** Inlet Diffuser for bulk liquid separation, followed by a polishing mist eliminator such as a vane pack illustrated here for clean service.



Alternatively, **KSME** Axial Cyclones on a simple deck can be used to cater for lighter solids loadings together with liquid slugs or heavy continuous mist.