

Carbon Capture Solutions



K-SEP™ MIST ELIMINATORS

KMCE™ MULTI-CYCLONES

KSME™ SWIRLTUBES



MIST ELIMINATOR TECHNOLOGIES FOR CO₂ CAPTURE SYSTEMS

Carbon capture systems are now being designed to treat a broad spectrum of industries, from coal fired cement and heavy industrial plants, through to clean natural gas power generation.

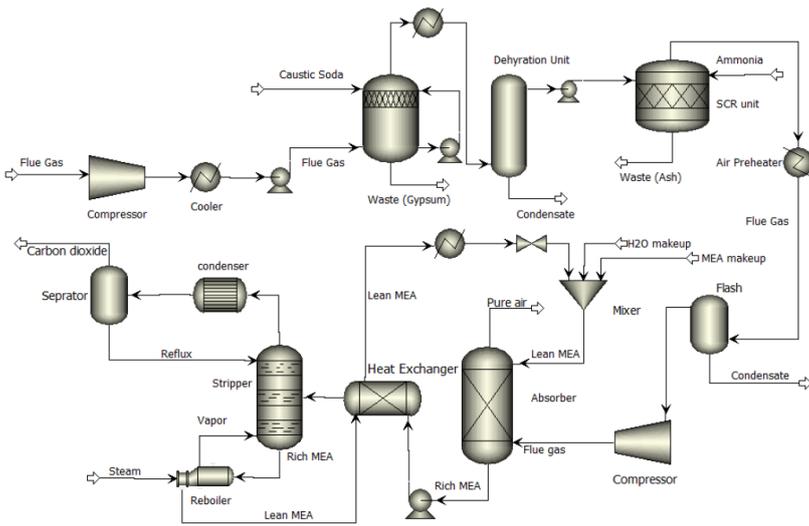
The gas cleaning challenges include potential solids contamination, condensation, dense phase gas, or very large KO drums.

Our Mist Eliminator & Scrubber internals are designed as a cost-effective and easily maintained solution for the problem of treating high CO₂ streams, removing >99% of particulates and droplets across a wide pressure range. All our internals are normally removable for easier maintenance and repair.

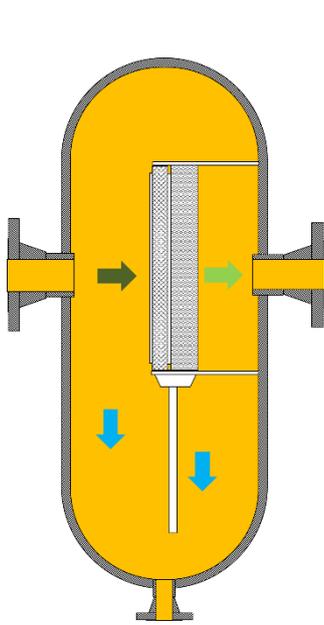
We have a wide range of effective separation technologies to draw upon for each specific application, depending on the flow characteristics. Hundreds of installations are in service world-wide with KIRK's Inlet Diffusers, Vane Packs, Multicyclones and Swirltubes cleaning gas containing liquid mist and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

mist eliminator
solutions

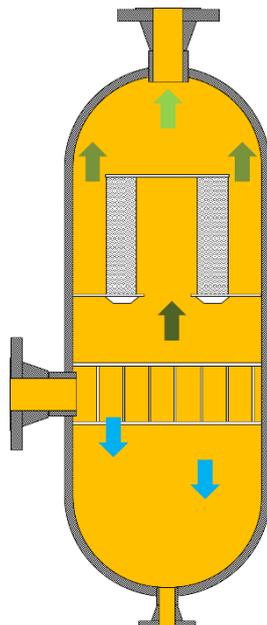
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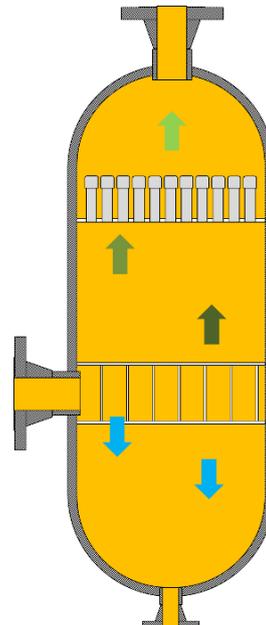
In typical Carbon capture installations there are numerous applications for mist and dust removal. Drawing upon our specialist range of internals, KIRK Process Solutions products are well proven in service, removing down to 5-10 microns or better and providing maximum on-stream uptime. Layouts may be 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.



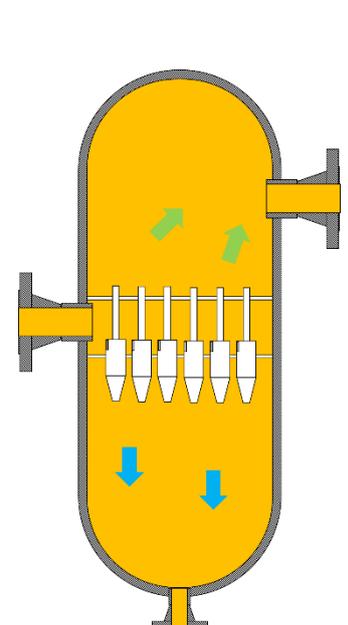
In-line KVP Vane Pack arrangements suit applications with light liquid mist loads and can handle some solids in the mix. For clean service a mesh pre-coalescer is sometimes added for even better performance.



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.



At high pressures and high gas density such as compressed CO₂, KSME Axial Cyclones on a simple deck can be used to cater for liquid slugs or medium to heavy continuous mist. They can also remove associated solids.



Effective across a wide range of gas densities, KMCE Multicyclones are installed between 2 seal plates and can be partially or wholly removable. They cope well with dry or wet solids and handle small quantities of entrained liquid mist.