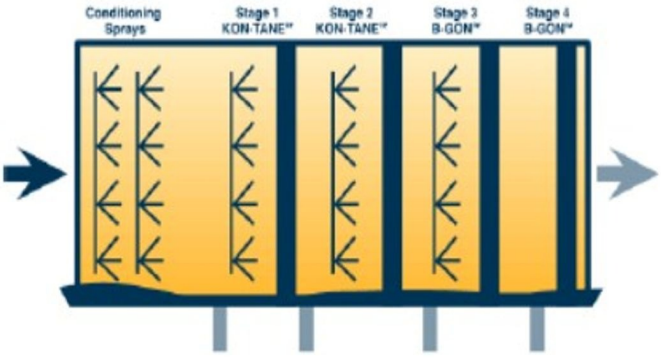
Tower Packing

Tower Packing is usually thought of as a mass of inert solid shapes dumped in a cylindrical column for the purpose of providing greater surface area for the gas and liquid in a wet scrubber to make contact. Structured tower packing is thought of in much the same manner, a series of stages are installed in a vertical tower to provide maximum surface area for the gas and liquid to make contact. However, most designers tend to overlook the benefits of an alternative tower packing in a cross or semi-cross flow arrangement.

The Kimre SXF™ Semi-Crossflow wet scrubber combines spray and packed bed sections followed by a mist eliminator in a horizontal box for maximum separation of soluble gases, particulate matter, and mist particles. These scrubbers are usually classified as medium energy scrubbers and have a pressure drop of 100-230 mm water gauge, although they can be higher energy depending on the system requirements.

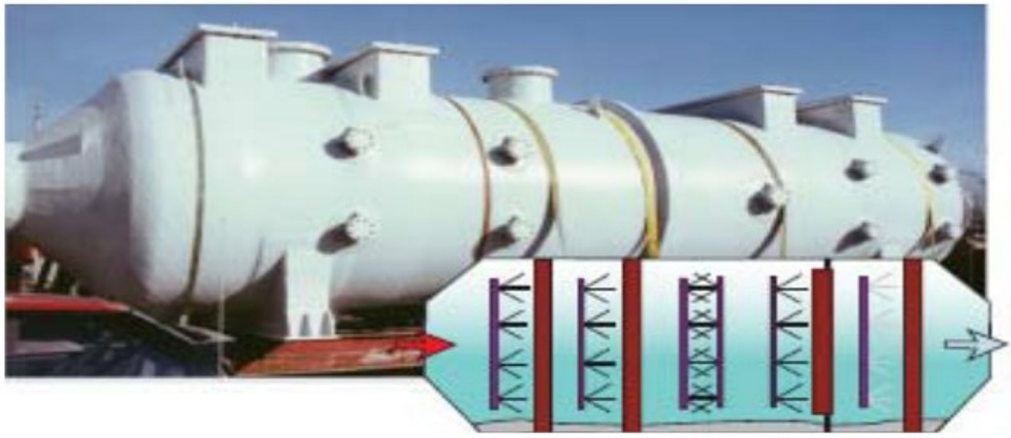
Kimre tower packing, mist eliminators, cassette frames and supports are installed in the user's vessel. Kimre provides design support for new vessel construction or retrofit of existing vessels, and offers new vessels or "packaged" systems.



Kimre recognizes that a single vessel can contain the following stages:

- Humidification and cooling
- Precooling and wetting
- Pre-cleaning of particulate matter
- Separation of medium to large size particles
- Stage-wise absorption of soluble gases
- Simultaneous collection of fine to medium size particulates
- Direct contact heat transfer
- Final separation of fine particles, mist, and aerosols

KIMRE™ AEROSEP® Multi-Stage Aerosol Separation Systems use: KON-TANE® & B-GON® Media



KIMRE SXF™ KON-TANE® Scrubber & Saturation	KIMRE B-GON® Mist Removal	AEROSEP® Particle Growth Stage	AEROSEP® Particle Coalescing Stage	KIMRE B-GON® Final Mist Removal

Features and benefits of KON-TANE®

- Highest liquid to gas ratio available
- Lower HTU's
- One-piece construction
- Easy installation
- Maintains uniform volume and flow
- Exceptional transfer in cross-flow scrubbers
- Improve transfer in vertical towers and prevent tower replacement or modification
- Exotic materials available for high alloy installations with corrosion problems

Field installation of Kimre tower packing, and mist eliminator cassettes. Top port entry facilitates ease of installation and maintenance. "On-line maintenance" permits replacement, or cleaning without process interruption.

Description of KON-TANE® Tower Packing

KON-TANE® packing is a structured, interlaced monofilament material. It is designed to facilitate breakup of the liquid phase, creating maximum surface area for mass transfer with the vapor phase. KON-TANE® packing produces low pressure drop, prevents liquid holdup on and within the packing and curtails excessive energy use.

The ladder-like arrangement of filaments or cylinders forms V-type double systems that intersect each other at right angles. A droplet falling from one of the cylinders will almost immediately hit the next. This makes renewed liquid surface available for mass transfer.

While having approximately the same dry pressure drop ratings as 1 1/4" (32mm) Rashig rings, KON-TANE® style 37/94 does not flood at liquid feed rates in excess of 42,000 kg/h/m2. Due to its inherent rigidity and strength, this product can be installed in layered pads numerous feet (meters) deep using relatively simple supports. The material is also flexible enough that the individual layers can be inserted through a manhole. Because of the uniform cross section of the material, edge-to-edge, channeling at the wall of the vessel and throughout the material is minimized.

KON-TANE® tower packing is manufactured in stackable, layered pads up to 7 1/2 inches (190mm) in depth. They are fabricated to fit your vessel in easily installed modules. Large one-piece pads can also be designed and built to meet your needs. Filament diameters run from 4 mils (0.1mm) to 37 mils (0.9mm).

Through the individual selection of the void fraction of up to 97%, the monofilament diameter, and the use of several consecutive packing stages, one can achieve stage-wise particle separation, that is particle removal by size. This achieves an intentional reduction in the possibility of plugging.

Unlike conventional packing, KON-TANE® packing can be easily built into cassettes so that in case of plugging, for example by salt crystals, they can be easily removed for cleaning.
Cleaning is quite simple, and shutdowns are very short and can often be completely avoided.

KIMRE: Your ***Clear Solution*** to Phase Separation, Mass and Heat Transfer, and Air Pollution Control.

KIMRE™
CLEAN AIR TECHNOLOGY

We are ready to assist you with any gas-liquid, gas-solid, and liquid-liquid separation question. We offer proven world-class products and a commitment to responding to your needs. Our practical, experience-based team is knowledgeable in all areas of emission control.

You will find we never lose sight of the ultimate goal: increasing process effectiveness and productivity while minimizing operating and maintenance costs.

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