

OIL & GAS PRODUCTION & TREATMENT TECHNOLOGIES



INTRODUCING THE

KSME SWIRL MIST ELIMINATOR

AXIAL FLOW CYCLONE

Part of the K-SEP® range



KIRK 
PROCESS SOLUTIONS

www.kirkprocess.com

KSME AXIAL SWIRLTUBES - DEVELOPED FROM DECADES OF EXPERIENCE AND RESEARCH



HIGH PERFORMANCE WITH HIGH CAPACITY AT ANY PRESSURE

KSME™ AXIAL FLOW CYCLONE SWIRLTUBES provide compact and economic solutions to fine mist and particle separation at low, medium and high pressure

PATENTED TECHNOLOGY

At the heart of each separating element is a special swirler developed at Berlin University by a team led by Prof. Dr. Klaus Hartmann, founder of GESIP GmbH. It is patented internationally for various applications and manufactured exclusively by KIRK Process Solutions Ltd.

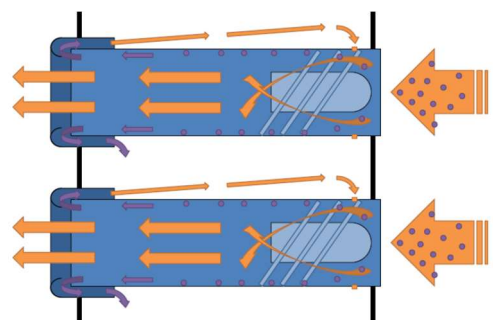
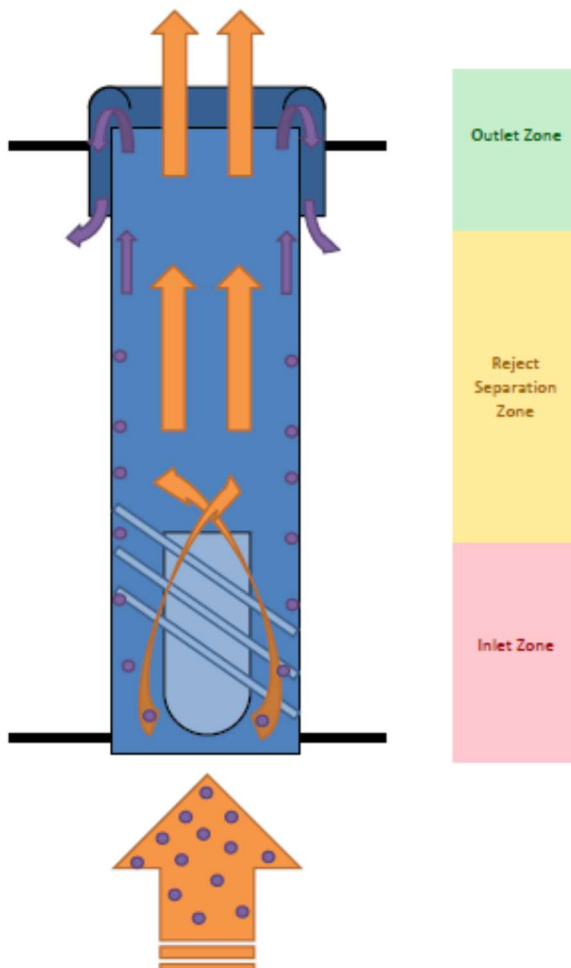
HOW IT WORKS

INLET ZONE - The incoming gas containing liquid droplets and/or solid particles is accelerated at high speed into a cyclonic swirl so that the heavy contaminants are flung to the cyclone tube walls.

REJECT SEPARATION ZONE - In the main body the contaminants form a film or layer at the tube wall and are swept upwards with the gas due to the combined cyclonic action and longitudinal drag force.

OUTLET ZONE - The top of each element is supplied with a centrifugal separator cap which captures the liquid film and sends it falling to the tray deck outside the element tube. Captured liquid drains from the tray deck via a down-comer pipe into the vessel's liquid sump for disposal.

HORIZONTAL INSTALLATIONS - For higher contaminant loadings the cyclones are laid horizontally and the elements are sealed at each end within a free-draining box. A small amount of carrier gas is re-circulated or vented.



- ✓ Suitable for liquid and solids removal
- ✓ Removes > 99% of particles above 6-8 microns
- ✓ Pressure drop typically 15-30 mbar

COMPACT SCRUBBERS USING KSME™ AXIAL CYCLONES



THOUSANDS OF CYCLONES
INSTALLED WORLD-WIDE
OVER 10+ YEARS



MATERIALS TO SUIT ANY APPLICATION

Standard, lightweight GFP (Glass Filled Polyamide or Polypropylene) elements are suitable for very sour applications in most hydrocarbon services.



For heavier duty applications where high temperatures or high solids loadings are present, we stock and manufacture in stainless steels or higher alloys.

CUSTOMERS AND END USERS INCLUDE



Highspeed™ axial cyclones can be installed vertically or horizontally within many separator orientations and layouts including



Vertical



Horizontal



In-Line

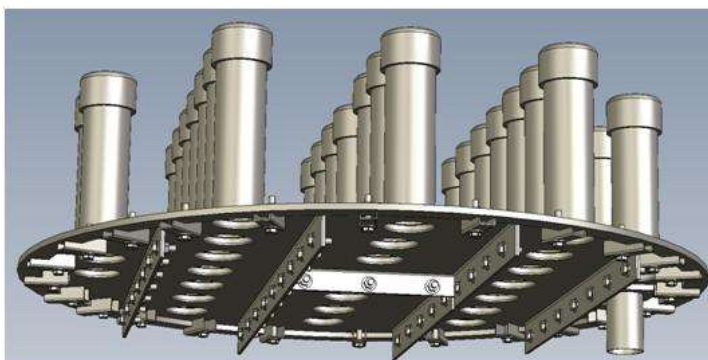
KSME™ AXIAL CYCLONES FOR ALL APPLICATIONS



The KSME™ Swirl Mist Eliminator provides a high degree of separation of fine droplets and dust even at high operating pressures. It can be positioned vertically or horizontally within a separator vessel.

Due to its high capacity it is ideal for retrofitting into existing separators when higher throughputs are required with improved efficiency. In new build applications these axial cyclones will result in significantly smaller vessels and hence give considerable weight savings and cost reductions.

The KSME™ axial cyclone is extremely efficient, even at higher pressures when vane packs lose their performance, and also when processing liquids with a low surface tension.



Typical Highspeed Axial Cyclone Deck

KIRK Process Solutions offers a range of products and services to support your front-end engineering including process simulations, internals selection and vessel sizing and optimisation.

Our separation expertise is evidenced by hundreds of operational vessels installed world-wide, spanning the full spectrum of operating pressures and environments and featuring many state-of-the-art separation technologies and components in their design.

TYPICAL APPLICATIONS

- ✓ Compressor Suction Scrubbers
- ✓ Discharge Scrubbers
- ✓ Pipeline KO Drums
- ✓ Filter Pre-Coalescers
- ✓ Glycol/Amine Pre/Post KO Drums
- ✓ Fuel Gas Treatment
- ✓ High & Low Pressures
- ✓ Offshore and FPSO

KEY FEATURES & BENEFITS

- Typically $\frac{2}{3}$ of the size of a vane pack KO drum
- Typically $\frac{1}{3}$ the size of a wire mesh KO drum
- Major savings in column weight and cost
- Excellent performance at very high pressures
- Tolerates solids; motion; cures foaming
- Low maintenance
- Elements available in stainless steel or lightweight plastics
- Excellent turndown in combination with mesh pre-coalescer
- Low pressure drop (30 mbar)

Reference Lists are available for all our K-SEP™ products.

CONTACT

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