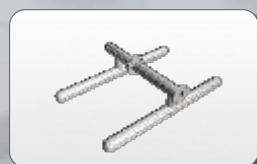
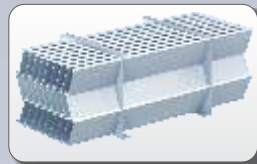


# Separator Internals for Oil & Gas Industry

## FXIntSep<sup>™</sup>

Fenix Separator Vessel Internals



## Fenix Separator Vessel Internals

### Introduction :

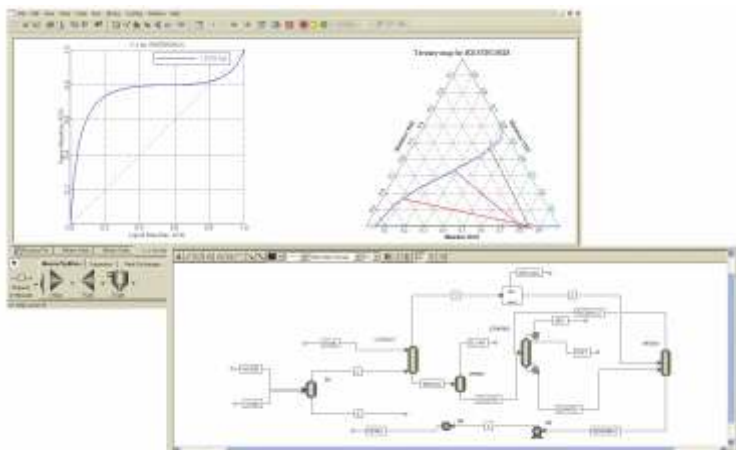
FENIX supplies a large number of internals FXIntSep™ used in separation services. Many of these have uses in other applications, but some have been developed specifically for gas/liquid separation fields such as:

- ↘ **Oilfield Production (gas/oil/water) Separators (onshore, offshore and FPSO)**
- ↘ **Test Separators**
- ↘ **Free Water KO Drums**
- ↘ **Oil/Water Coalescers**
- ↘ **Compressor scrubbers**
- ↘ **Gas/Liquid KO Drums & Inlet Scrubbers**

## COST EFFECTIVE DESIGN SOLUTIONS FOR THE OIL AND GAS INDUSTRY FOR OVER 20 YEARS

Fenix offers a range of design services to support your front-end engineering including process simulations, internals selection and vessel sizing and optimisation. In addition we offer CAD drafting and 3D plant layout design.

We continually review our technologies and employ new approaches whenever demanded to improve quality and flexibility. Because all the three steps of process simulation, design and manufacture are carried out in-house, chance of any error or slip is minimized.



Our specialisation in process design & simulation by using AspenPlus is employed in solving the typical challenges encountered by clients in their operations. The simulation exercise shows how the actual plant would behave and the equipments would function to design superior new plants and retrofit existing plants for higher efficiency and profitability.

A TYPICAL PRODUCTION SEPARATOR for oilfield service is illustrated below, but the selection and optimisation of the appropriate technology is determined on a case by case basis.

**INLET DEVICES**

- Half-Pipe
- Bifurcator
- Tangential
- Splash Plate
- Multi-Vane
- Schoepentoeter
- Cyclone

**FOAM BREAKERS**

- Serpentine Packs
- Mesh Pads
- Structured Packs
- Cyclones
- Angled Plates
- Flow Straighteners

**MIST ELIMINATORS**

- Mesh Demisters
- Plain Vane Packs
- Pocketed Vanes
- Combination Packs
- High Surface Packing
- Axial Cyclones
- Gas Domes

**DISTRIBUTORS**

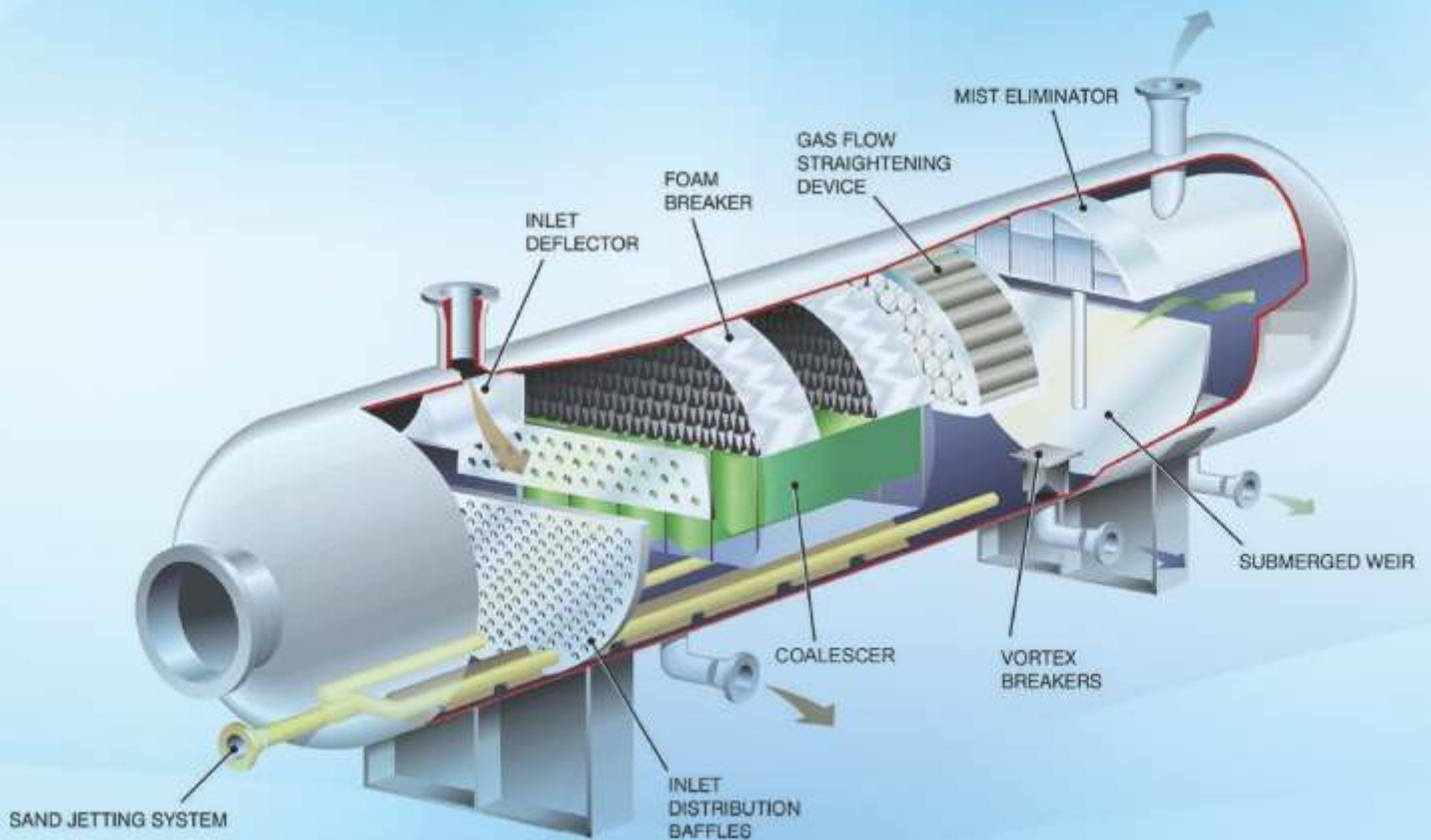
- Perforated Baffles
- Slotted Baffles
- Pipe Distributors
- Troughs
- Wave Breakers
- Gas Outlets

**COALESCER PACKS**

- Mesh Pads
- Dual Media Mesh
- Corrugated Plates
- Matrix Packs
- Plate Packs
- Liquid Boots

**OTHER INTERNALS**

- Vortex Breakers
- Submerged Weirs
- Overflow Weirs
- Oil Buckets
- Sand Jet Systems
- Sand Pans
- Ant-Motion (FPSO)



**FXIntSep**

Delivering the **ultimate**  
in **separation** technology

ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ

\* In technical documents: [www.tisys.ru](http://www.tisys.ru) [www.tisys.kz](http://www.tisys.kz) [www.tisys.by](http://www.tisys.by) [www.tesec.ru](http://www.tesec.ru) [www.ти-системс.рф](http://www.ти-системс.рф)

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# Economy without compromise for high performance

## Inlet Devices

Inlet Distributor

Vane Inlet Distributor

Cyclone Inlet Distributor

Perforated Baffle Plates

## Defoaming Internals

Straightening Foam Breaker Vanes

Foam Breaker Matrix

## Coalescing Internals

Plate Pack

Matrix Pack

Dual Media Coalescer

## Demister Internals

Wire Mesh Demister

Vane Mist Eliminators

## Desanding Internals

Sand Jet Spray System

Hydro Transport Removal

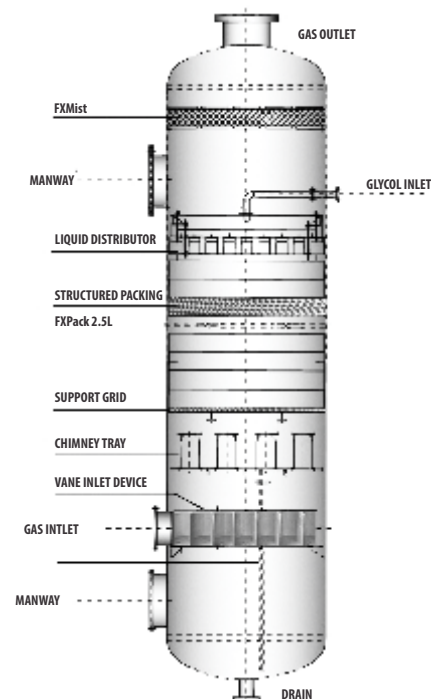
## Other Devices

Vortex Breakers

## Process Technology

**TEG Contactor** for Moisture-Free Gas

**Amine Contactors** for Sweetening Sour Gas



## Inlet Distributor

The FXIntSep™ is a simple, dualvane inlet device used in horizontal separators where there is a requirement for reasonable flow distribution with low shear and pressure drop. In horizontal vessels this is suited to top entry. Benefits of this device compared with simpler deflectors such as deflector plates or dishes include reduced agitation and hence improved 2 and 3 phase operational performance, more stable level control, and reduced foaming.

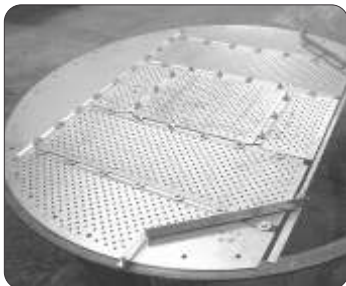


## Cyclone Inlet Distributors

The FXIntSep™ is a cyclonic inlet device used in horizontal and some vertical separators where there is a requirement for high momentum dissipation, foam reduction and high capacity. A characteristic of the FXIntSep™ is its high flow capacity, meaning that more throughput is possible through any given size separator.

## Multi Vane Inlet Distributor

The FXIntSep™ VID is a device used in horizontal and vertical separators where there is a requirement for good flow distribution with minimum shear and pressure drop. In horizontal vessels the FXIntSep™ VID is suited to both end entry as illustrated below, and top entry by means of an elbow directed towards the head. Benefits of this device compared with simpler deflectors include reduced agitation and hence improved 2 and 3 phase operational performance, more stable control, and reduced foaming.



## Perforated Baffle Plates

FXIntSep™ PBP are designed and manufactured to be installed in sections through a vessel manway and are either self reinforced using webs on the panels, or in larger vessels may be additionally supported with separate stiffening beams.

## Solids Removal

Much work has been performed on the development of sand or sludge removal systems from separators over many years. However, no single “sand jet” system has evolved as clearly superior, rather there are a number of design features to choose from depending on the characteristics and nature of the problem. FENIX makes it’s sand jetting systems based on a wide range of features to ensure that the sand deposits can be fluidised and hence drained satisfactorily in the most economic way.



## Hydro Transportation System

Hydro transportation devices are considered by some to be the “latest generation” of sand removal devices. The operating principle is the introduction of wash water in a vortex manner. While effecting initial mobilisation of accumulated solid particles, an area of low pressure is produced at the centre of the induced vortex, which is utilised, by means of strategically placed piping, to transport the produced slurry out of the vessel.

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# Fenix Engineering Services

for Distillation, Extraction, Stripping and Absorption

- ‡ Feasibility Study
- ‡ Process Simulation & Process Design
- ‡ Lab & Pilot Plant Facilities
- ‡ Basic Engineering Package BEP
- ‡ Detail Engineering of Key Equipments
- ‡ Startup & Commissioning Assistance
- ‡ Inhouse Analytical & Data Analysis
- ‡ Data Analysis for Plant Operations



Distillation Setup



Analytical Setup



Extraction Setup



## Fenix Process Technologies Pvt. Ltd.

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Opp. Sevasadan School  
Erandwane, Pune - 411004  
India.

### Representative:



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