FENIX®
An ISO 9001:2008 Company

Mass Transfer Technology

Distillation

Absorption

Rectification

Extraction

Reactive Distillation

Your Partner
For Complete Mass Transfer Solutions.

Typical Internal Accessories of Distillation Column

Columns / Towers
Distillation, Stripping, Rectification, Absorption, Extraction & Reactive Distillation.

OFFERING YOU THE COMPLETE FXRANGE OF MASS TRANSFER & SEPARATION INTERNALS

Fenix® Process Technologies is a Mass Transfer Equipment manufacturing company with an integrated engineering solution. This enables us to provide high efficiency process design & detailed mechanical design.

Our vertical centric solution approach makes us a trusted partner for all our client needs. Headquartered in Pune and headed by an efficient team with over three decade of cumulative experience in the process design & manufacturing industry, Fenix is poised to lead its industry segment.

Fenix has a state-of-the-art manufacturing plant with an area of 50,000 sq.ft. and an able set of resource for the process and mechanical design capabilities.

The below table represents our process engineering capabilities.

Domain	Sub Domain
Chemical Industry	• Solvent Recovery • Extraction • Absorption • Separation/Purification of Chemicals • Reactive Distillation
Food Technology	• Vegetable Oil Refining
Pharmaceutical Industry	• Solvent Recovery • Extraction • Absorption
Alcohol Technology	• Fuel Ethanol
Ethanol Derivatives	• Acetaldehyde • Glacial Acetic Acid • Ethyl Acetate
Aromatic	• High Vacuum Distillation of Perfumery Products
Bio-diesel	• Methanol Recovery • Glycerol Recovery
Dyes & Intermediates	• Distillation/Purification of Intermediates • Solvent Recovery
Oil & Gas	• Crude Distillation • Vacuum Distillation • Cleaning of Crude Oil

Content

FXPack™ -SP

Column / Tower Packings

Structured Packings, made from thin-gauge sheets or woven wire mesh to give a regular pre-formed shape, provide high surface area with high void fraction to promote efficient vapour-liquid contacting in mass transfer operations. Surface enhancement techniques are incorporated to promote liquid spreading over the packing and avoid chanelling. To achieve a predetermined level of separation efficiency, Fenix FXPack™-SP structured packings require much less height of column with lower pressure drop compared to random packings or trays.

Structured Packings

Structured Packing from Sheet Metal

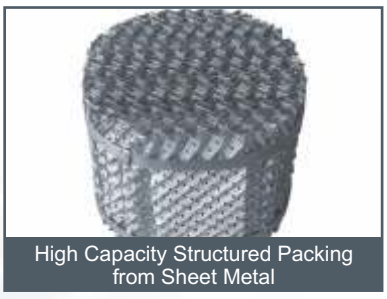
FXPack 60.0L/M
FXPack 1.25L/M
FXPack 1.70L/M
FXPack 2.0L/M
FXPack 2.5L/M
FXPack 3.5L/M
FXPack 5.0L/M
FXPack 7.5L

MOC : Stainless steels, 904L, 254SMO, Duplex, SS410S, Titanium, Hastelloy, etc.
Sizes : 50 mm to 8.0 m diameter.
Application : Standard application, Moderate vacuum to high pressure, Low to high liquid loading.
F-factor : 1.2 to 3.5
Surface area : 60 to 750 m^2/m^3
NTSM : 1.0 to 4.5

Structured Packing from Wiremesh

FXPack WM5.0M
FXPack WM7.5L

MOC : Stainless steels, Carbon steel, Phosphor bronze, or any metal/alloy according to customer request.
Sizes : 25 mm to 3.0 m diameter
Application : High vacuum to low pressure. Good for where low pressure drop required.
High no. of stages per meter. Highly efficient even at low liquid loading.
F-factor : 1.5 to 2.2
Surface area : 500 to 750 m^2/m^3
NTSM : 6 to 9



High Capacity Structured Packing from Sheet Metal

FXPack SUPER* 250
FXPack SUPER 350
FXPack SUPER 450
FXPack SUPER 600
FXPack SUPER 750
FXPack SUPER 1000
FXPack SUPER WM 500
FXPack SUPER WM 600
FXPack SUPER WM 750
FXPack AL SUPER 250
(for aqueous systems only)

MOC : Stainless steels, 904L, 254SMO, Monel, Hastelloy, or any metal/alloy according to customer request.
Sizes : Up to 8.0 m diameter
Application : High liquid loading, High vapour loading, Useful for heat-sensitive systems.
Very low pressure drop
F-factor : 2.2 to 3.0
Specific surface area : 250-750 m^2/m^3
NTSM : 2.2 to 5.0

Reactive Distillation Packing

FXReact SM
FXReact WM

MOC : According to customer request.
High separation efficiency.
Reaction capacity/rate can be high.
Flexible design of catalyst element.
Can be used in laboratory columns.
Diameter : 50 - 500 mm
Surface area : 150 to 750 m^2 / m^3
NTSM : 1.0 to 3.0

* FXPack SUPER is only available in countries where no patent infringement occurs.

Structured Grid Packing

FXGrid 45L
FXGrid 60L/M
FXGrid 90L/M

MOC : Stainless steels, SS410S, Duplex, Monel, Hastelloy, Carbon steel, or according to customer request.

Application : Fouling systems, corrosive environment, where frequent cleaning or replacement needed.

Sheet Thickness : 1.0 - 2.0 mm

Grid Packing

FGG25
FXGrid-3

MOC : Stainless steels, SS410S, Duplex, Monel, Hastelloy, Carbon steel, or according to customer request.

Laboratory Packing (Wiremesh)

FXLab-EM
FXLab-DM
FXLab-DMPlus

Standard MOC : SS, others on request.
Suitable for heat-sensitive systems.
NTSM : 20 - 40
Pressure drop low, 0.1 to 0.4 mbar/stage.
Suits low liquid load 0.05 m^3/m^2h.
Can be used for high vacuum to 2 mbar.
Can be scaled up easily.
Diameter : 25 - 100 mm

Knitted Structured Packing

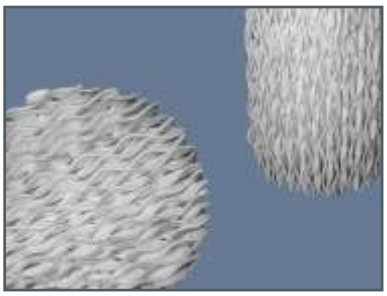
FXLab-KM12
FXLab-KM8

MOC : Stainless Steel, others on request.
Application : Separations where high no of theoretical stages are required due to its high efficiency.
Heat sensitive materials such as fine chemicals, flavors & fragrance, pharmaceutical intermediates due to lower pressure drop by this packing.

Packing for Liquid-Liquid Extraction

FXExtract 2.0
FXExtract 2.5
FXExtract 3.0

This is a specially designed packing combination made from sheet metal for liquid-liquid extraction.
MOC : Stainless steels, Carbon steel, or any metal/alloy according to customer request.
Available upto 3 m diameter.



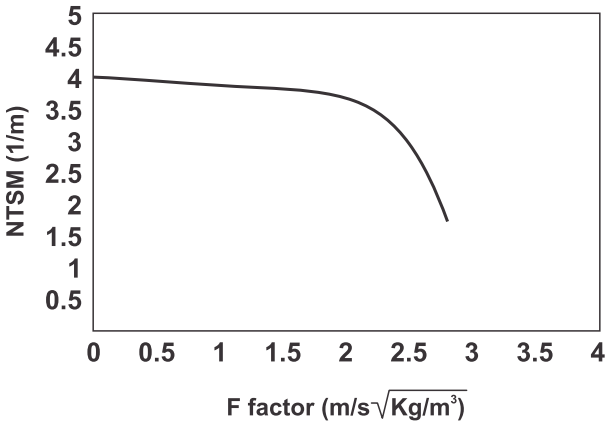
FXPack PTFE

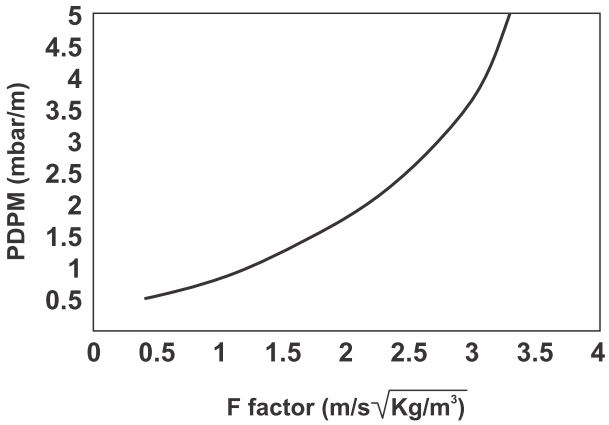
Sizes : 100 mm to 300mm
Application : Corrosive systems
Temperature : Up to 150° C

Typical Performance Characteristics

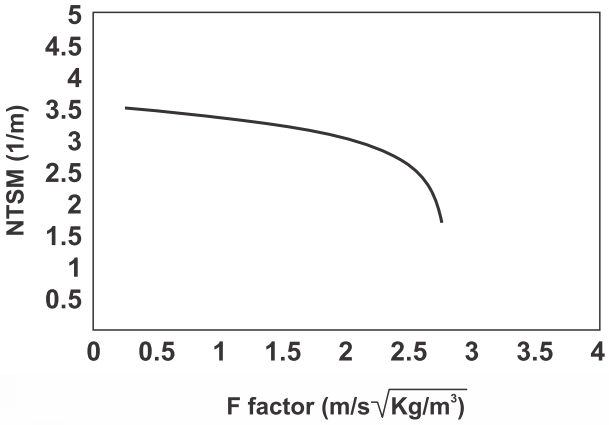
Performance characteristic curves for three models of Fenix Structured Packing are given underneath. The values plotted in the graphs are mean values and were obtained by using standard/ideal test mixtures. Production plant data/results may vary marginally from system to system.

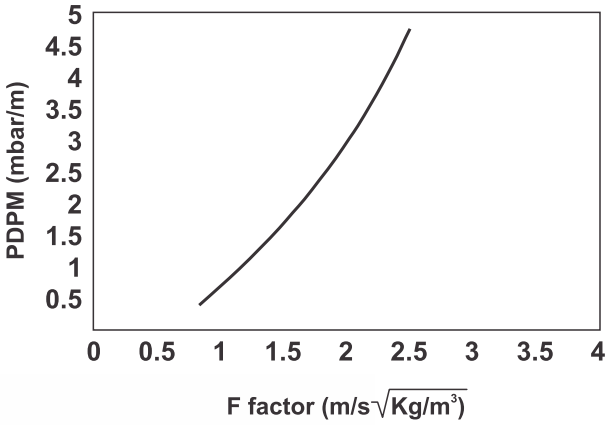
Performance Curves of FXPack 3.5L



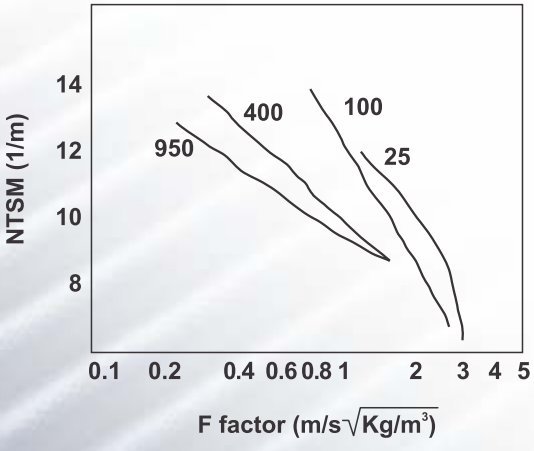


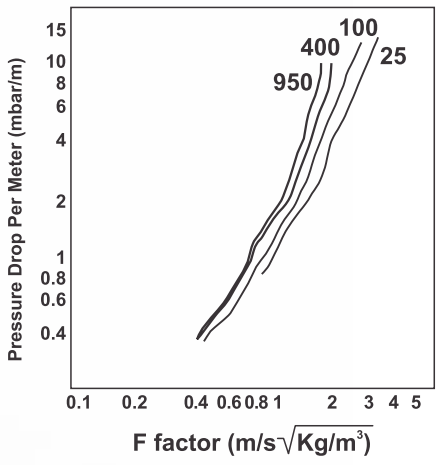
Performance Curves of FXPack 5.0M





Performance Curves of FXPack WM 7.5L

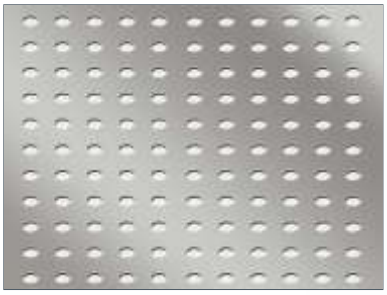




NTSM : Number of theoretical stages per meter packing height [m^{-1}]

F-factor : A measure of vapour throughput [$m/s\sqrt{Kg/m^3}$]

Distillation Trays

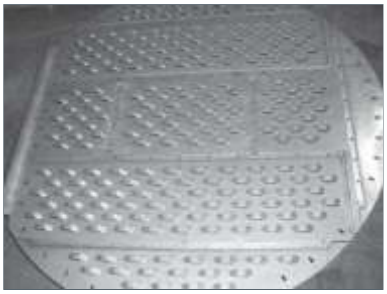


FXTray-1

Sieve Tray

Stainless steels, 904L, 254SMO, Duplex, SS410S, Titanium, Hastelloy or any metal/alloy according to customer request
Up to 8.0 m diameter.

Low cost. Not flexible for wide range of turndown ratio.

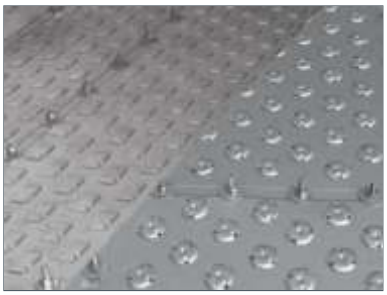


FXTray-2

Fixed Valve Tray

Stainless steels, 904L, 254SMO, Duplex, SS410S, Titanium, Hastelloy or any metal/alloy according to customer request.
Up to 8.0 m diameter.

Wider turndown ratio and better resistance to fouling compared to FXTray-1.



FXTray-3

Floating Valve Tray

Stainless steels, 904L, 254SMO, Duplex, SS410S, Titanium, Hastelloy or any metal/alloy according to customer request.
Up to 8.0 m diameter.
Tray open area automatically changes according to vapor flow rate. Most versatile – can be used for almost all services. Widest turndown ratio. Available in two modules : rotating and non-rotating.

FXTray-4

Bubble Cap Tray

Stainless steels, 904L, 254SMO, Duplex, SS410S, Titanium, Hastelloy or any metal/alloy according to customer request.
Bubble Caps : 10-100 mm diameter

Used for low liquid loads. Very wide turndown ratio.

FXTray-5

Cartridge Tray

Stainless steels, 904L, 254SMO, Duplex, SS410S, Titanium, Hastelloy or any metal/alloy according to customer request.

Normally supplied in small sizes up to 1.0 m diameter.

Highly suitable for fouling and foaming applications. and for systems which require frequent maintenance or replacement. Wide turndown ratio.

FXPack™ -RP

Column / Tower Packings

To enable mass transfer to take place, liquid and vapour/gas must be contacted intimately in the equipment. Random packings, small objects of regular shape and size made from metals, polymers, ceramics or glass, is one such device. Random packings are just dumped into the column. Fenix FXPack™-RP random packings offer the advantage of lower pressure drop across the column (when compared to plates or trays), which is beneficial while operating under vacuum.

Random Packings - Metals

Material of Construction: Stainless Steel or any metal/alloy according to customer request.

Cylindrical Rings

FXPack RR10
FXPack RR15
FXPack RR19
FXPack RR25
FXPack RR38
FXPack RR50
FXPack RR70
FXPack RR80

Bulk density : 200-900 kg/m^3
Surface area : 90-600 m^2/m^3
NTSM : 1.5-1.8
High mechanical strength.
Thickness : 0.3mm - 1.0mm

Fenix P-Rings

FXPack P10
FXPack P15
FXPack P19
FXPack P25
FXPack P38
FXPack P50
FXPack P75

Bulk density : 220-350 kg/m^3
Surface area : 120-500 m^2/m^3
NTSM : 1.8-2.2
Thickness : 0.3mm - 0.6mm

C-Rings

FXPack C1.0
FXPack C1.5
FXPack C2.0
FXPack C2.5
FXPack C3.0
FXPack C4.0
FXPack C5.0

Bulk density : 150-250 kg/m^3
Surface area : 110-220 m^2/m^3
NTSM : 2.2-2.5
Thickness : 0.3mm - 0.8mm
Low pressure drop, Suits vacuum systems
Good liquid distribution, High throughput, Low liquid hold-up.

Saddle Rings

FXPack S15
FXPack S25
FXPack S40
FXPack S50
FXPack S60
FXPack S70

Bulk density : 120-330 kg/m^3
Surface area : 60-280 m^2/m^3
NTSM : 2.2-2.5
Thickness : 0.3mm - 0.8mm
Very low pressure drop, Suits high vacuum application.
Very low liquid hold-up.

HP Rings

FXPack HPR30
FXPack HPR45
FXPack HPR60
FXPack HPR90

Bulk density : 190-280 kg/m^3
Surface area : 90-270 m^2/m^3
NTSM : 1.8-2.2
Thickness : 0.3mm - 0.6mm
High capacity, lower pressure drop, high mechanical strength than P-Rings.

N Rings

FXPack NR15
FXPack NR25
FXPack NR30
FXPack NR50

Bulk density : 130-180 kg/m^3
NTSM : 1.2-2.5
Very low pressure drop, Suits high vacuum application.
Very low liquid hold-up.

Data given are for stainless steel packings of standard thickness.

Random Packings - Plastics


P-Rings

FXPack PPR15
FXPack PPR25
FXPack PPR50
FXPack PPR80

MOC : PP, PVDF
Bulk density : 55-110 kg/m^3
Surface area : 100-350 m^2/m^3
NTSM : 1.8-2.5


Saddle Rings

FXPack PSR15
FXPack PSR50
FXPack PSR75

Bulk density : 45-75 kg/m^3
Surface area : 85-230 m^2/m^3
NTSM : 2.0-2.5

Random Packings - Ceramics


Saddle Rings

FXPack CSR13
FXPack CSR25
FXPack CSR38
FXPack CSR50
FXPack CSR75

Bulk density : 590-720 kg/m^3
Surface area : 100-522 m^2/m^3
NTSM : 1.8-2.6


Balls

FXPack CB06
FXPack CB13
FXPack CB19
FXPack CB25
FXPack CB38
FXPack CB50

Bulk density : 1300-1400 kg/m^3
Surface area : 65-420 m^2/m^3
NTSM : 0.8-1.5


P-Rings

FXPack CPR25
FXPack CPR38
FXPack CPR50
FXPack CPR75
FXPack CPR100

Bulk density : 500-650 kg/m^3
Surface area : 55-220 m^2/m^3
NTSM : 1.4-1.8

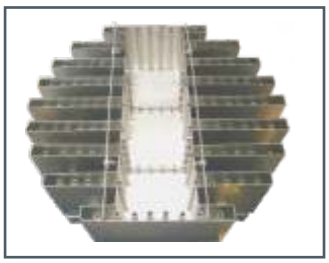

Cylindrical Rings

FXPack CRR13
FXPack CRR19
FXPack CRR25
FXPack CRR38
FXPack CRR50
FXPack CRR75
FXPack CRR100

Bulk density : 500-840 kg/m^3
Surface area : 44-350 m^2/m^3
NTSM : 1.4-1.7

Packings, whether random or structured, serve the basic purpose of providing intimate contact between liquid and vapour/gas in mass transfer operations. But for effective and efficient performance of packings some more peripherals (i.e. internals) are needed. Fenix has been designing, manufacturing and supplying efficient and economic internals to its customers.

FXInt LD & RD - Liquid Distributors & Redistributors



FXInt-CTD

Channel Type Distributor

Channel type distributor is one of the regularly used distributors. Specially successful for structured packing. Diameter upto 800mm can be manufactured in single segment and can be manufactured with top trough upto 2 metres diameter in segmented pattern.

FXInt-FEP

Baffle Type Distributor

These distributors are best suited for low to heavy applications available from 700 mm diameter and onwards. These distributors are provided with holes at certain level on side wall of the channels & fitted with baffle plates. This construction helps to distribute liquid flow evenly, helps to cover more surface area even for low liquid flow rates.

FXInt-STD

Spiral Type Distributor

Construction of this distributor resembles the construction of channel tube type distributor. Channelised construction is applied with holes on the side wall where it is covered with the spiral tube. Such construction helps to apply for viscous liquids & severely plugging application.

FXInt-CTD

Chimney Tray Type Distributor

Chimney tray distributor are applicable for high liquid loads & higher diameter columns. Features of this distributor help it to work as distributor as well as redistributor. Whenever collection & re-distribution is required this distributor can be used.

FXInt-SNTD

Spray Nozzle Type Distributor

Liquid loading : 2 to 200 m3/m2h
Size : upto 8.0 m

FXInt-PTD

Pipe Type Distributor

Pipe Type Distributor is one of the simplest design. These distributors can be very efficient where the vapour flow is very high as the pipe type construction provides large surface for vapour flow.

FXInt-PATD

Pan Type Distributor

Pan type distributor provides liquid holdup in the distributor which can operate for very low liquid loads. Vapour passes through a circular or rectangular gas risers. Distributor can be used even from as low as 100mm & above upto 800mm column diameter with pan. For fouling application pan type distributor can be used with V-Notch Tubes. It can be successfully applied for random Packing. Liquid loads can be possible even from $1m^3/m^2hr$ to $80m^3/m^2hr$.

FXInt-LLE

L-L Extraction Type Distributor

Used in packed L-L Extraction columns for continuous and dispersed phase preventing emulsions at low surface tensions.

FXInt-TTD

Trough Type Distributor

Trough type distributor can be used for very high liquid load & higher column diameter from 900mm & above diameters. Both bottom holes & tube construction is possible in trough type distributor. Top trough distributes the liquid in bottom channels which distributes the liquid evenly on the surface of packing. Can be used for both structured & random packing. Liquid loads may vary from $2m^3/m^2hr$ to $50\ m^3/m^2hr$.

FXInt LD-6

Antenna Type Distributors

These distributors have very small distribution holes and are used usually for smaller diameters and for low liquid loads. Solid impurities are not tolerated.

FXInt LD-10
FXInt RD-10

Deck Type Distributor & Redistributors

Liquid loading : 5 to $220m^3/m^2hr$
Size : upto 8.0m

This can also be used as a liquid redistributor.

FXInt-SPTD

Spider Type Distributor

Features of this distributor resembles with channel type distributor, for special applications where low liquid flow rates are required, we propose to have a special distribution arrangement at the bottom to cover the max. area of packing & to care for low liquid loads even as low as $0.05m^3/m^2hr$. The low liquid load can be possible by using special arrangement at bottom of tubes like Spider type distribution. Can handle Gas Load up-to 4.5 Pa^0.5.

FXInt-LLLD

Low Liquid-Load Distributor

Nozzle Overflow Type: A hole is located on the upper surface of a pipe, through which a liquid flows out.

Open Trough Type: Notches on the upper side are sloping to divide the outflow liquid.

FXInt LC - Liquid Collectors

FXInt LC-1

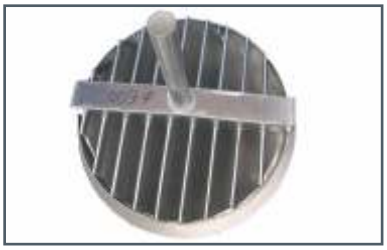
Vane Type Collectors

Also known as “ring type collectors”, these collectors have very low pressure drop – almost negligible.

FXInt LC-2

Collectors With Support Grid

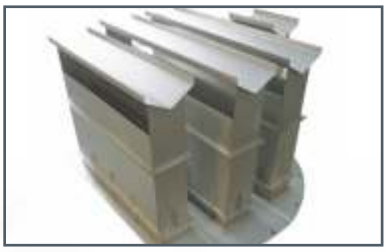
This is a combination of packing support grid and vane type collector.



FXInt LC-3

Flanged Type Collectors

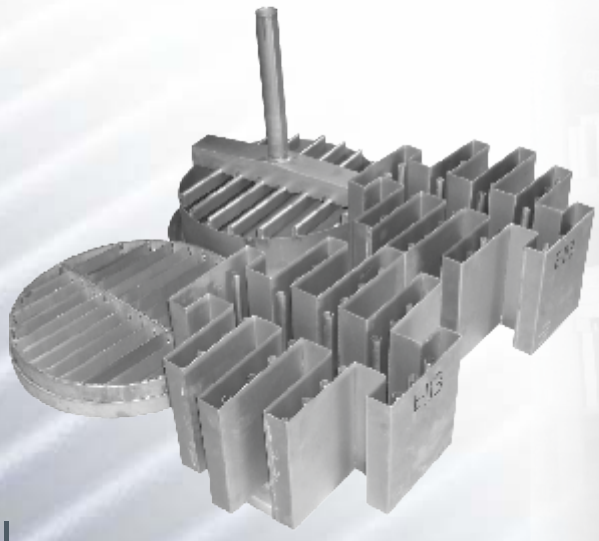
This is suitable for comparatively smaller diameter columns where manholes are not practicable and the column sections are flanged in construction.



FXInt LC-4

Chimney Tray Type Collectors

Normally used for large diameter columns with high liquid throughput, available in both welded and bolted structure.



FXInt LFS - Liquid Feed Systems

FXInt LFS-1A

This “L” type of feed inlet is most suitable for comparatively smaller diameter columns with feed liquid at bubble point or lower temperatures.

FXInt LFS-2

This type is used for feeding process liquids containing gases.

FXInt LFS-1B

Comparatively larger diameter columns perform well with this “T” type of feed inlet for feeding liquid at bubble point or lower temperatures.

FXInt LFS-3

This type is used for feeding superheated liquid.

FXInt GFS - Gas Feed Systems

FXInt GFS-1

Plain Inlet

FXInt GFS-2

Pipe Inlet

FXInt GFS-3

Impingement Inlet

FXInt GFS-4

Tangential Inlet

GFS-3 and GFS-4 are used in cases where the gas velocity is high, ensuring reduction of kinetic energy content of incoming gas thus improving the gas distribution.

FXInt PS - Packing Supports

FXInt PS-1

Support grid used for structured packings.

Very strong construction is not needed for support plates to be used with structured packing as the weight per unit cross section area of a bed of structured packing is not very high.

FXInt PS-2

Multi beam support used for random packings.

For random packings which are dumped on the support plate, the weight per unit cross section area is high. Therefore comparatively stronger construction is required for the support plate.

FXInt PS-3

For large columns.

For large diameter and heavy duty distillation columns, the static weight of packed bed combined with the liquid column is quite high. Strong construction of packing support is therefore necessary.

FXInt BL - Bed Limiters

FXInt BL-1

Bed Limiters are installed directly above a packed bed in a distillation column to prevent any movement or shifting of packing elements under turbulent conditions of liquid or vapour flow. These are fabricated as segmented and bolted for large diameter columns but in one piece for small columns.

FXInt BL-2

FXInt ME - Mist Eliminators

FXInt ME-1

Knitted Mesh Type

Low cost. High efficiency. Upto 3-5 micron size particles can be removed. Almost complete removal of droplets for turndown ratio of 3:1.

Mostly used for vertical gas flow.

FXInt ME-2

High Efficiency Mesh Type

Denser weaving and thinner wire used compared to FXInt ME-1 for more demanding applications.

Mostly used for vertical gas flow.

FXInt ME-3

Hooked Vane Type

Low pressure drop. Normally used for larger droplets. Fouling systems can be handled.

Used for both vertical and horizontal gas flow.

FXInt ME-4

Pocketed Vane Type

Low pressure drop. Well-suited for applications with high gas/vapour velocity. Fouling systems can be handled.

Especially designed for horizontal gas flow.

FXInt ME-5

Plain Vane Type

These mist eliminators are generally not efficient for mist droplets smaller than about 20 microns, but they are sturdier than mesh pads and impose much less pressure drop.

Separator Internals for Oil & Gas Industry

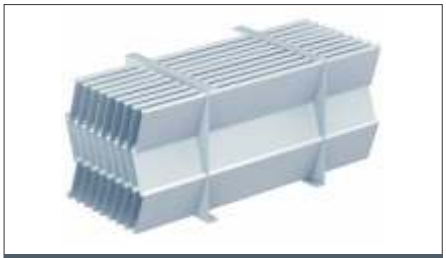
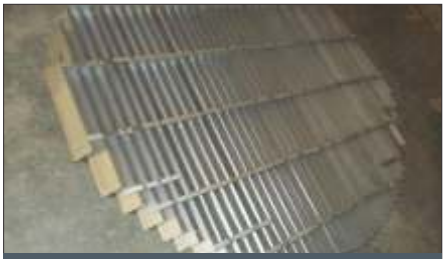

Vane Pack Module

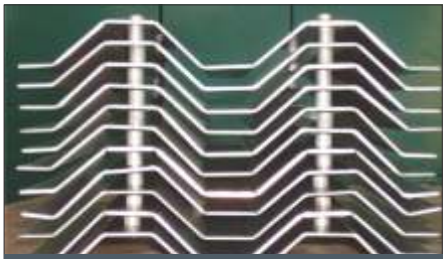

Plate Pack

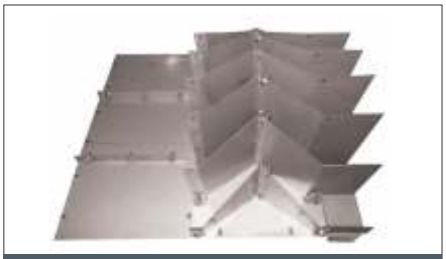

Sand Jet Assembly


Vane Inlet Device

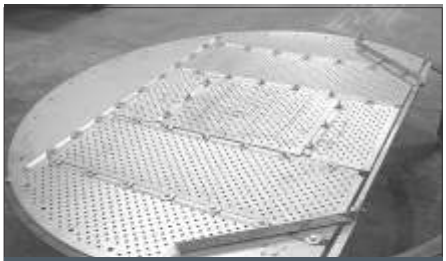

Matrix Pack


Wave Breaker


Plain Type Mist Eliminator


Anti Turbulence Slats


Weir Plate


Double Skin Perforated Baffle

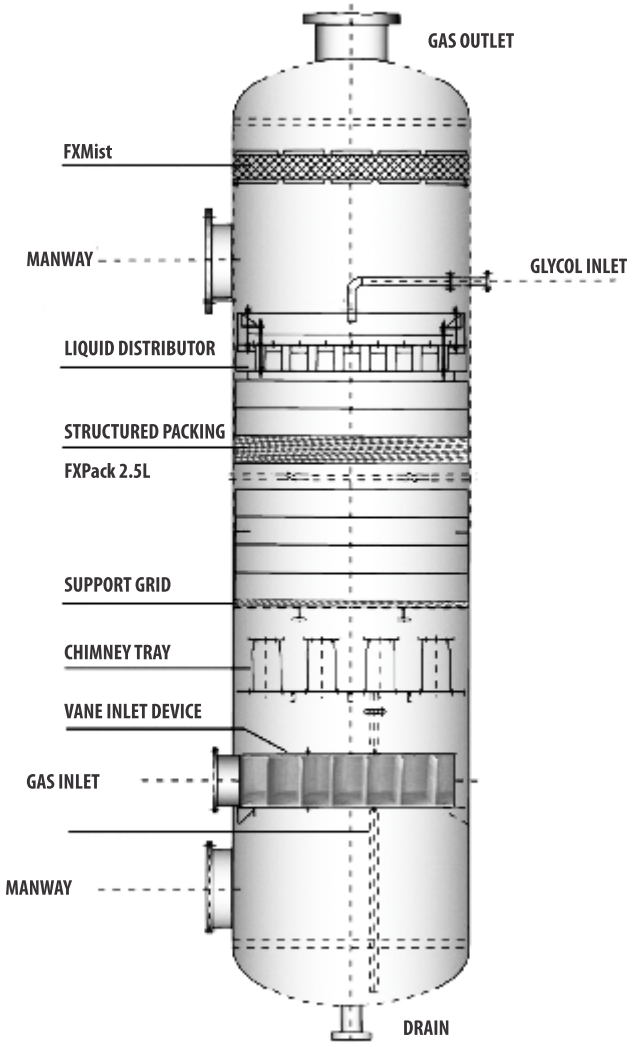

Double bank 'v' droplet separator


Multi Cyclone

TEG Contactor for Moisture-Free Gas

Gas fields and oil fields are usually located far away from gas processing and petrochemical production facilities. Crude gas, extracted from a depth below the surface of the earth is not fit for transportation as it contains moisture along with acid gases like H_2S and CO_2 which severely corrode the gas transportation system. Therefore a dehydration facility is provided in the vicinity. Fenix has the requisite design strength to model and design Triethylene Glycol dehydration systems for gas with stringent process guarantees.

Saturated gas is fed to the first column where lean Triethylene Glycol removes moisture to bring it to 10 ppm level using packed bed counter current operation. The column works as an absorber and Fenix structured packing FXPack™-SP is used for efficient moisture removal. The exit TEG which is rich in moisture content is regenerated using two columns - Stripper and Regenarator. In the stripper, moisture is removed from TEG by heating, usually employing a reboiler. The moisture in TEG is further removed in the regenerator by recycling a small quantity of dry gas obtained from the first column.



Amine Contactors for Sweetening Sour Gas

Amine contactor is the process equipment to remove acidic gases like H_2S and CO_2 from sour gas to make it “sweet” i.e. fit for all downstream processing. Usually n-methyl diethanolamine (MDEA) is used as the sweetening agent.

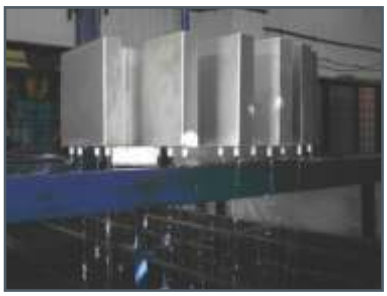
Fenix has the requisite strength to model and design high-efficiency Amine Contactors. The sour gas stream enters the bottom of the amine contactor while pre-cooled lean amine is fed from the top for countercurrent extraction of acid gases. Sweet gas comes out from the top of the column. The acid-rich amine solution leaving the bottom of the column is hot due to exothermic sweetening reactions and is led to surge drum where desorption of hydrocarbon from the amine solution takes place leaving behind acid-containing amine. H_2S and CO_2 are stripped off from the amine solution in the Amine Regenerator and the amine so obtained is recycled back to amine contactor after cooling.

For Amine contactors, the design basis is the specified ppm level concentration of amine in the exit gas.

Services

Fenix® Engineering Services

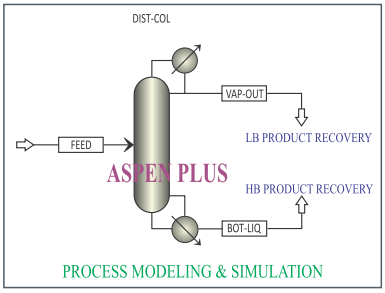
Liquid Distributor Testing



Fenix has a state-of-the-art testing facility for performance of liquid distributors for standardizing design and manufacture of liquid Distributors. This ensures that any Liquid Distributor designed and manufactured by Fenix performs consistently, efficiently and economically during operation. Statistical technique is applied to quantify the quality of liquid distribution and its effect on the performance of the packing to be used. In this test rig, performance parameters are verified before the liquid distributor is delivered and installed. Designed duty is confirmed by a flow test with water.

This facility is capable of testing Liquid Distributors up to 4 meter diameter and can be operated with liquid loads upto 270 m^3/h. All liquid distributors manufactured by us are subjected to test with water in this facility for ascertaining quality and performance. This water test is free of additional costs.

Process Modeling & Simulation



One of the most sophisticated process simulation software Aspen Plus is available at our disposal which enables us to predict the behavior of a process being designed.

Given reliable thermodynamic data and realistic operating conditions, we can simulate chemical process systems including distillation columns and compare the various alternative designs with actual plant behavior. Thus better new plants are designed and existing plants are made more efficient.

Efficient and economic capacity and column diameter with different types of structured packings, random packings and trays for given feed compositions are determined by simulation with Aspen Plus using its data bank and models.

Process & Equipment Design

We have modern facility, capable management, well trained engineers and skillful technicians to carry out the complete process and equipment design for our valued clients.

- Process Simulation using ASPEN
- Process Design of Heat Exchangers
- Column Hydraulics
- GA Drawing
- Mechanical Design of all Equipments
- Equipment Drawing
- P&I Diagram
- Plant Layouts
- Instrumentation & Automation

Softwares at our disposal :

'AspenPlus' for process simulation

'PV Elite' for mechanical design of equipment

'TrayHeart' for tray design and troubleshooting

'HTRI' for design of Heat Exchanger

'PCOL' for random packing design and hydraulics

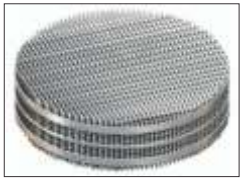
And various internally developed programs/softwares for in-house use.

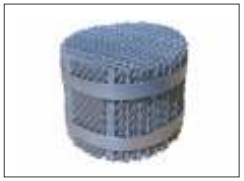
Revamping/Retrofitting of Existing Columns

Erection, Commissioning & Troubleshooting

The FXRange of Mass Transfer & Separation Internals from Fenix Process Technologies

FXPack™


Structured Packing


Wire Mesh Packing


P Rings


C Rings

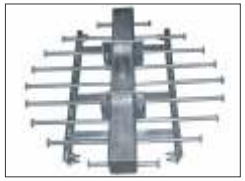

Saddle Rings

FXInt™


Trough Distributor


Chimney Tray Distributor


Pan Type Distributor


Feed Pipe Distributor


Support Grid

FXMix™


Static Mixer


Jacketed Mixer


Teflon Element


Housing with Elements


Shear Mixer

FXTray™


Distillation Trays

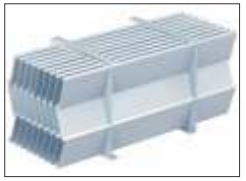

Bubble Caps


Tray Panel


Bubble Cap Tray


Cartridge Tray

FXIntSep™


Vane Pack Module


Sand Jet Assembly


Perforated Baffle


TEG Contactor


Vane Inlet Device

FXPRO™


Pusher Centrifuge


Heat Exchanger


SS Distillation Column


Thin Film Evaporator

FENIX®

www.fenix.in

Total Solution from Fenix

Process Technology
Feasibility Study
Conceptual Design
Process Simulation
Testing (Laboratory / Pilot Plant)
Design Manual
Process Guarantee

Control Systems
Instrumentation Diagram
Control Specifications

Project Management
Project Engineering
Equipment Fabrication
Erection & Commissioning
Operators Training

After Sales Service
Troubleshooting
Spare Parts
Revamping of Non-Fenix Plants

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
- In-house Analytical & Data Analysis
- Data Analysis for Plant Operations


Distillation Setup


Analytical Setup


Extraction Setup

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FENIX®

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