



# Reactor Internals

Engineering-Equipment-Turnkey Systems

# Reactor Internals

Discovering  
the potential of  
process optimisation.



## Fenix Reactor Internals - Overview

Fenix designs, manufactures and installs the full range of internals for our refining, petrochemical, and gas processing customers throughout the world. Our internals are designed for gas/liquid/solid mixed phase reactors in applications such as

- Adsorbers and Regenerators
- HDS & Hydrotreaters
- Polymerisation Units
- Ammonia Reactors
- Reformers, etc.

Our reactor internals include liquid distribution trays, quench mixers as well as inlet diffusers, catalyst support beams, grids and outlet collectors.

# Hydroprocessing Reactor Internals

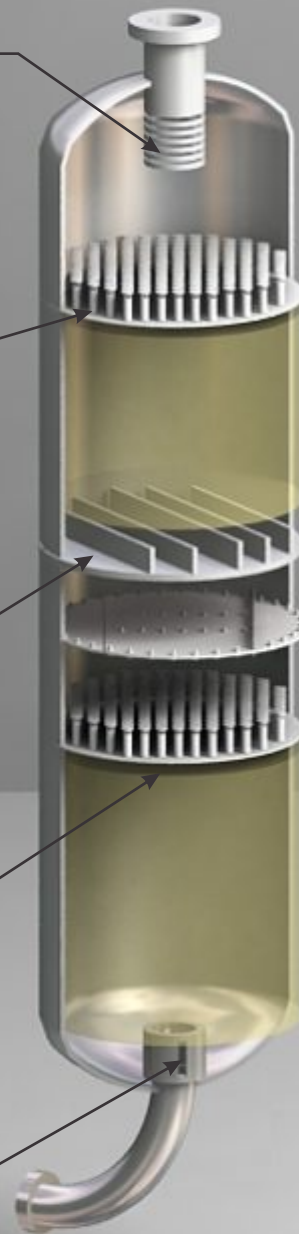
**Inlet diffuser**  
Breaks down the velocity of the two phase mixture before it reaches the distribution tray.

**Top liquid distribution tray**  
Ensures optimum distribution of liquid and vapour over the entire catalyst bed.

**Catalyst support beams and grids**  
Designed to support the weight of catalyst, support media, oil, etc. from SOR to EOR, while maximising the catalyst volume.

**Liquid redistribution tray**  
Ensures equal redistribution of liquid and vapour over the entire catalyst bed.

**Outlet collector**  
Ensures even flow distribution in the bottom bed to achieve optimal catalyst utilisation and prevents catalyst migration.



# Reactor Internals



## Inlet Distributors

Available plain or with wire mesh or wedge wire covering.



## Radial Flow Baskets

Custom engineered to retain the catalyst whilst providing free flow.



## Gas/Liq Distributor Trays

Widely used for multi-phase flow applications.



## Reactor Sieve Trays

A standard design where liquid holdup is required.



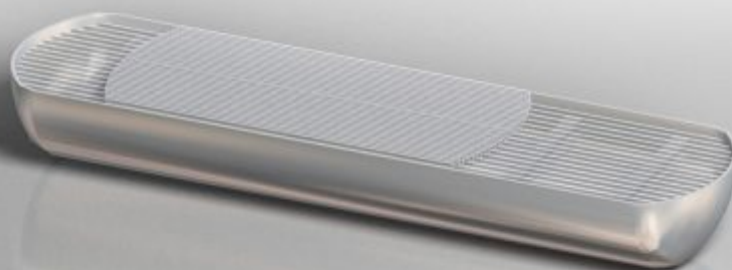
## Fixed Screens

A widely used bottom screen, resting on a support grid.



## Support Grids

A range of designs to accommodate most applications.



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