

EPAL SAMUDERA SDN. BHD.

Company No. 202001016791 | Registered supplier, PETRONAS SMART by GEP

JKKP-licensed vessel & tank fabrication, mist eliminators, filtration and column internals

PETRONAS Licensed (Bumiputera Local), valid to Feb 2029

JKKP (DOSH) Pressure Vessel Maker & Repairer PVM01 / PVR01, to 2028

ISO 9001:2015 quality system

Own fabrication plant, Senai, Johor

WHO WE ARE

Epal Samudera is the PETRONAS-licensed supply and service company of the **Peltech group**, a filtration and separation specialist established in 2006 with companies in Malaysia, Singapore and Indonesia.

Our products are designed and fabricated by our principal, **Peltech Filtration Sdn. Bhd.**, at its plant in Senai Industrial Park, Johor. The plant is registered with DOSH as a competent company for the **manufacture, repair and alteration of pressure vessels**, works under an ISO 9001:2015 quality system, and uses qualified welders, approved welding procedures and hydrotest records on every vessel job.

We replace and upgrade internals of any original make, often from site measurement alone, on expedited turnaround schedules.

Industries	Oil & gas, LNG, refining, petrochemical, fertilizer, oleochemical and edible oil
Materials	SS304/L, SS316/L, duplex, Monel, Inconel, carbon steel, PP
Documents	EN 10204 3.1 certificates, PMI, dimensional, NDE and hydrotest reports
Codes	ASME VIII Div.1 vessels; welding to approved WPS / WQT
Service area	Peninsular Malaysia, Sarawak (Bintulu), Singapore

PRODUCTS



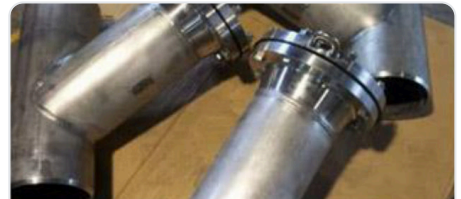
Welded tanks & pressure vessels

- All tanks and vessels built under JKKP licence PVM01 / PVR01
- Vertical cylindrical & atmospheric tanks, separator and process vessels
- ASME VIII Div.1, approved WPS, hydrotested



Mist eliminators

- Knitted mesh demister pads, any make (York type equivalent), to OD 3960 mm
- Two-layer pads, vane packs, Monel and PP pads
- Fibre candle mist eliminators; site installation



Strainers

- Basket, duplex, Y-type and tee strainers, 2" to 24" and larger
- Temporary cone and basket strainers for commissioning
- Strainer baskets, elements and remeshing



Process filters

- LEAKPROOF vertical pressure leaf filters, 5 to 100 m²
- Filter leaves: new, remeshed, Dutch weave SS316L
- Bag, polishing, cartridge and reusable SS elements



Trays, internals & wedge wire

- Valve, sieve, bubble cap and dual flow trays; tray valves
- Liquid distributors, collectors, risers, inlet devices
- Wedge wire support grids, tee screens, laterals, nozzles



Tower packing & grids

- Metal random packing: Pall, IMTP, CMR, saddles
- Structured packing: sheet metal and wire gauze
- Support and hold-down grids; bed replacement on site

LICENCES & CERTIFICATIONS

PETRONAS licence (PLMS)

- **24231200P** Contactor Trays
- **24231600P** Mist Eliminator
- **24232000P** Strainer
- **28152400P** Y, Conical & Basket Strainer
- **24271000P** Cartridge Filter
- **24212500P** Other Rotating Equipment

Agent codes held with principal Peltech Filtration Sdn. Bhd. Licence status: Bumiputera Local, valid to February 2029.

Manufacturing & quality (Peltech Filtration plant)

- **DOSH Orang Kompeten (Syarikat)**: manufacture, repair and alteration of pressure vessels, scope PVM01 / PVR01, reg. JKKP/2023/19/137, valid to 3 July 2028
- **DOSH workplace registration** JKKP/JH/2026/276174: metal fabrication (cutting, forming, welding, assembly)
- **ISO 9001:2015** quality management system
- Vessels to ASME VIII Div.1; welding to approved WPS with qualified welders; hydrotest records

SERVICES

- Site measurement and inspection of existing internals
- Installation, supervision and commissioning on site
- Reverse engineering of obsolete or foreign-made parts
- Turnaround support with expedited fabrication
- Process sizing and selection of internals and filters
- Weld repair of vessels and drums by DOSH-qualified welders

SELECTED REFERENCES

Sector	Project & scope	Year
LNG, Malaysia	Demister pad replacement, LNG plant: SS304 knitted-mesh demister pad Ø2,100 mm × 100 mm in 7 sections with support grids, cleats and clamps: fabricated in 10 days and air-freighted to East Malaysia.	2026
Oil & gas, Malaysia	Knitted-mesh demister pads: SS304 demister pads Ø1,500 mm × 150 mm, 5 sections, with support grids, studs and brackets.	2026
Refining, Malaysia	Monel demister package for a refinery separator: Monel 400 mesh pads with SS316L grids: horizontal pads up to 2,027 × 1,727 × 305 mm plus a vertical Ø2,743 mm pad in 16 sections.	2026
Refining, Singapore	Two-layer demisters, large diameter: Two-layer mesh demisters Ø3,048 mm and Ø3,960 mm, plus pads for four further vessels, with grids and binding finish.	2026
Specialty chemicals, Singapore	Fibre-bed mist eliminators: Fibre-bed candle mist eliminators (4 sets) and process blow-back separators (4 units) as replacements for the original equipment.	2026
Refining, Southeast Asia	Ø5.9 m separator demister: SS316 knitted-mesh demister Ø5,944 mm × 152 mm for a refinery separator, supplied through a process licensor.	2023
Petrochemical, Saudi Arabia	Super duplex demister for a hydrogenation drum: Super duplex UNS S32750 demister Ø3,000 mm × 300 mm for a vapour-liquid separation drum, supplied through a Malaysian EPC contractor.	2016
Offshore gas, Malaysia	Catalyst support grids for absorber vessels: Support grids for two gas absorber vessels ID 4,000 mm and two condensate absorbers ID 2,100 mm for an offshore central processing platform.	2020
Refining & chemicals, Malaysia	Coalescer support grid for a 3.6 m reactor: Wedge wire support grid Ø3,550 mm, 0.25 mm slot, SS304, built in sections to pass through the reactor manway.	2024
Petrochemical, Malaysia	Dual-flow trays, 3.6 m column: Fabrication of new SS304 dual-flow trays, plate Ø3,598 mm, 4 sets, to the client's drawings. Delivered through an engineering contractor.	2026
Steam & utilities, Malaysia	Steam drum weld repair: Weld-repair procedures for three steam drums, then site repair by DOSH (JKKP)-qualified welders with supervision.	2025

Client names, purchase order numbers, equipment tags and plant locations are withheld. Named references are available to qualified buyers and PETRONAS-group procurement on request. Full anonymised list: www.epalsamudera.com/project-references

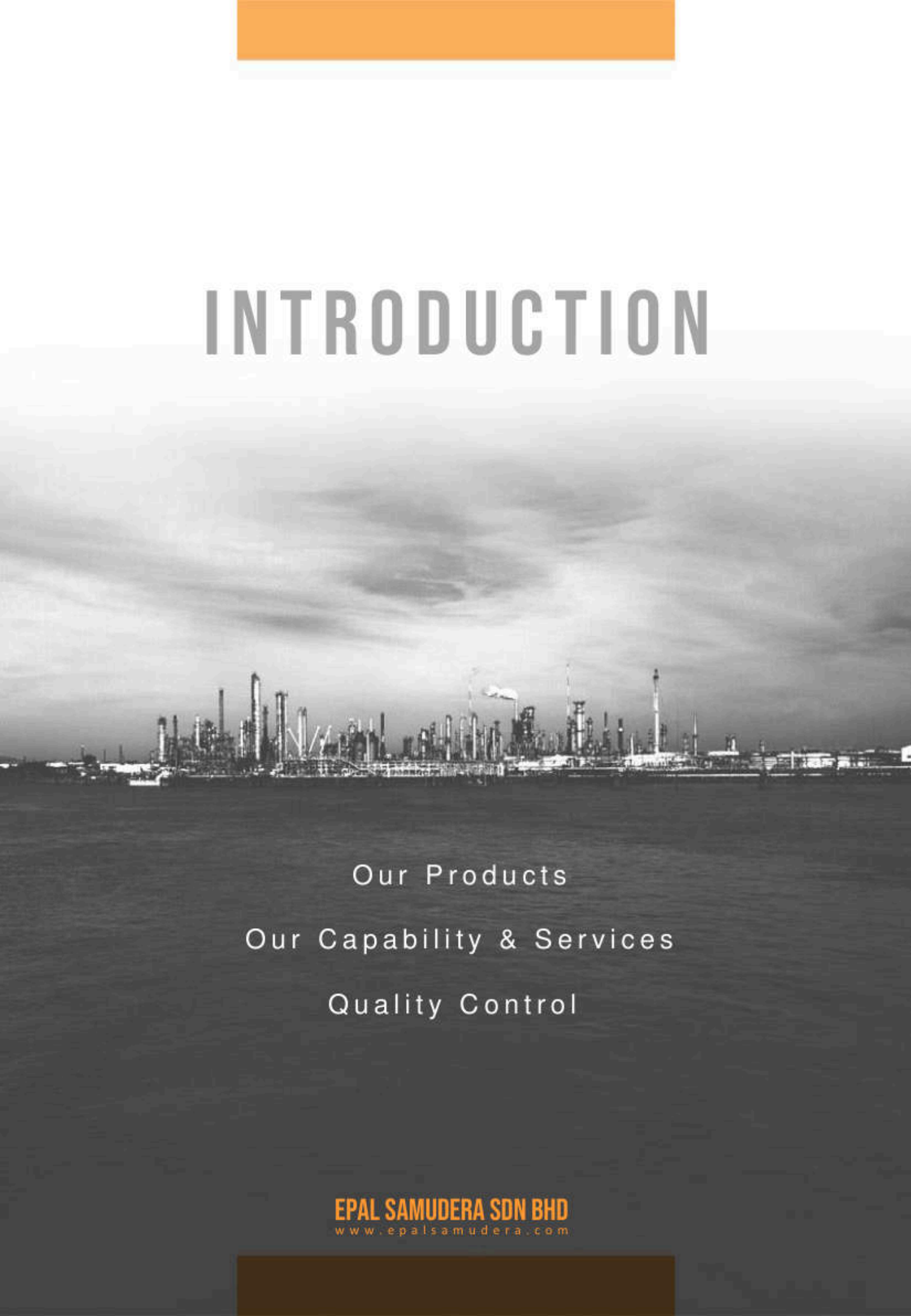


EPAL SAMUDERA SDN BHD

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INTRODUCTION



Our Products

Our Capability & Services

Quality Control



Filtration



Separation

OUR PRODUCT

We are specialist in Filtration and Separation

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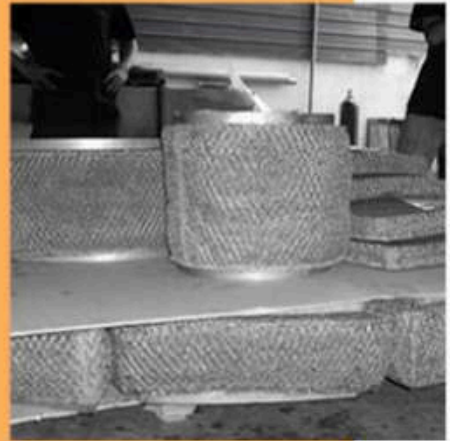
We manufacture & Supply
Filtration and **Separation** equipment

We are capable to
Design + Build + Supply

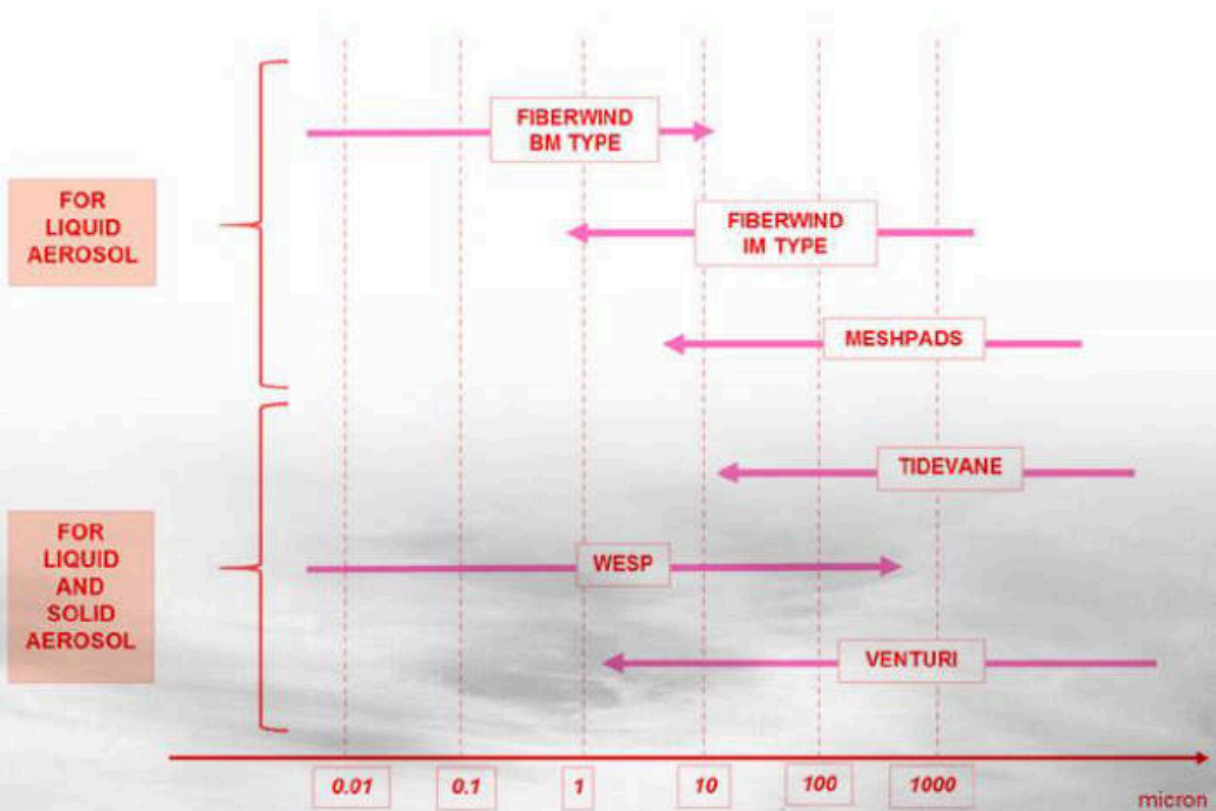
Our local team who can provide immediate
Consultation + Support + Maintenance

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SEPARATION



- The process and techniques to separate two different substances
- We are focus mainly on Sieving, Distillation, Centrifuge and Magnetic separation.
- Separation range from 0.01 mm to 10mm (10,000 mm)
- Sieving Machines, Vane Packs, Structure Packing, Demister Pad, Trays, and etc.



ENVIRONMENT SOLUTIONS MIST & DUST REMOVAL



SEPARATION PRODUCT (GAS)

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OUR PRODUCT



Demister is also known as mist eliminator, wire mesh separator or wire mesh blanket. It separates mist or dust contained in a fluid. This is a kind of high efficiency separation devices, is essential in many process operations to remove liquid droplets from gas or vapor streams.

Uses of Demister

Evaporator	Product loss goes down and purity is remarkably improved.
Knockout Drums and Separators	If Demister is used, 1/2 inch drum is sufficient.
Scrubber	In the field of caustic soda, the demister is used to prevent air pollution.
Gas Separator Vessels	Hydrocarbon in gases is collected so gas of 1/0.1 billion purity is produced out.
Vacuum Tower	The treatment quantity by the demister goes up by 35%. The quality of oil gas is improved.
Absorber	Some gasoline plants use a glycol absorber so the installation cost is being repaid within a month.
Distillation Column	If Demister ® is used, the cost for distillation goes up, the quantity of treatment increases by 20%, and purity is remarkably improved.

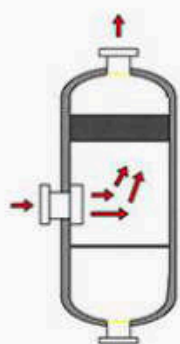
Industry

- Chemical fertilizer factory
- Salt-manufacturing factory
- Pulp factory
- Food factory
- Alcohol factory
- Oil refining factory
- City gas factory
- Lactic Acid factory
- Sugar-manufacturing factory
- Glass factory
- Steel-manufacturing factory
- Petrochemical factory

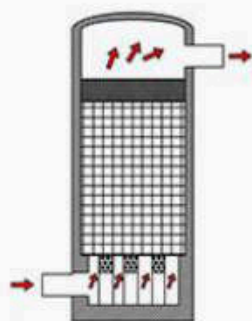
OUR PRODUCT

Equipment

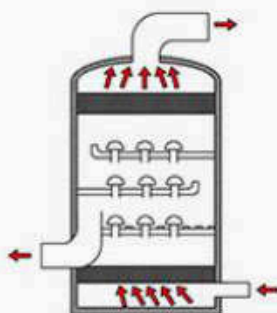
- | | | | |
|-------------------------|------------------|--------------------|-----------------|
| ● Deodorizers | ● Dissolver Tank | ● Cooling Towers | ● Absorbers |
| ● Distillation | ● Air Conditions | ● Ducts | ● Air Filters |
| ● Fractionating Columns | ● Crystallizers | ● Flash Towers | ● Catch-Alls |
| ● Kettles | ● Knockout Drums | ● Gas Cleaners | ● Dehydraters |
| ● Separators | ● Stacks | ● Scrubbers | ● Evaporators |
| ● Vacuum Tower | ● Air Washers | ● Steam Separators | ● Gas Absorbers |



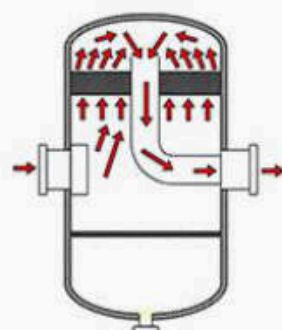
**Vertical
Separators**



**Packed
Towers**



**Fractionating
Towers**



**In-Line Gas
Scrubbers**



Demister

Wire mesh demister pads are used in chemical, petroleum, sulfate, medicine, metallurgy, marine and environment protection. Along with wire diameter and mesh density, another important parameter in design and operation is the vapour velocity.

This can be controlled by careful selection of the mesh area. Optimal area will depend on operating temperature, pressure and pressure drop. Under normal operating conditions, 99% removal efficiency can be achieved with a very low pressure drop.

OUR PRODUCT

Features of Demister



- Simple structure.
- Durable and long service life.
- Multiple materials for choice.
- Corrosion and rust resistance.
- Customized shapes and sizes.
- Lightweight and easy to transport.
- High porosity, less pressure drops.
- Easy to install, operate and maintain.
- Large surface area and high separating efficiency.

Demister



The operating principle of the mist eliminator is simple. As the wet vapour stream rises through layers of contracting surfaces within the knitted and crimped wire mesh demister pad, entrained as they continuously impact each surface. The gas within the vapour stream continues to rise and passes easily as the heavier liquids separate, attach and coalesce into droplets within mesh. As the droplets grow and become heavier until they fall to the bottom of the vessel due to gravity.

Liquid accumulations can then be drained out of the bottom as the overhead gas is free of entrained liquid and routed through the top of the vessel.

OUR PRODUCT

Tray

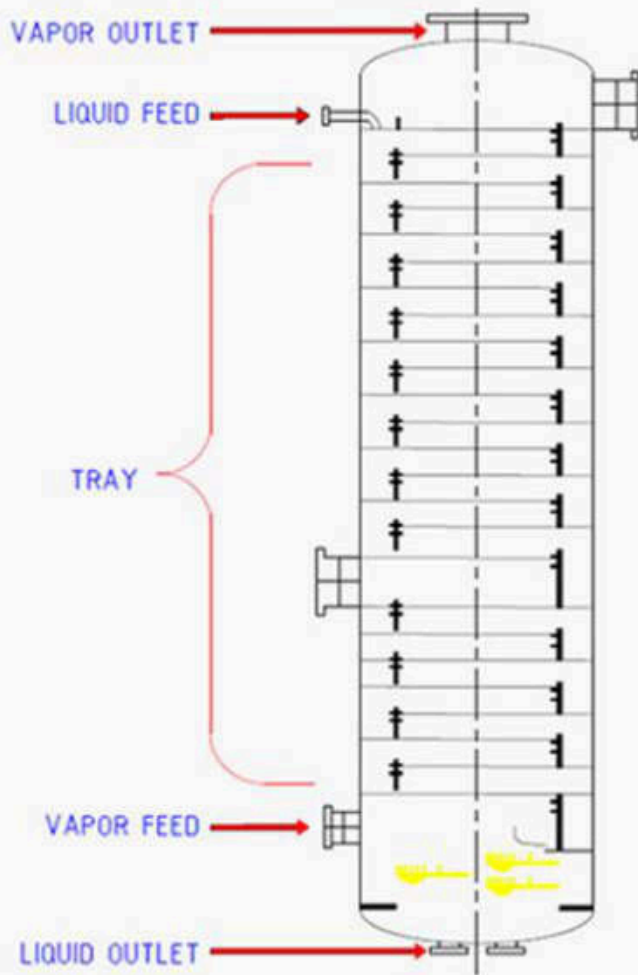
A tray basically acts as a mini-column in which each of it performing a fraction of the separation task.

From this we can conclude that the more trays there are, the better the level of separation and that overall separation efficiency will rely fundamentally upon the design of the tray.

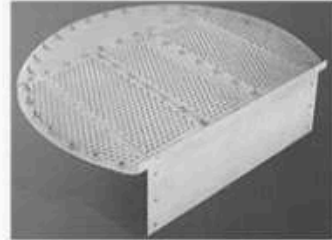


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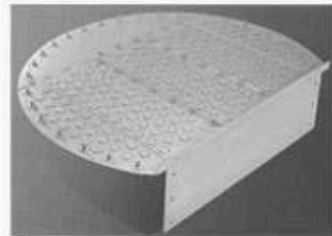
Tray Tower



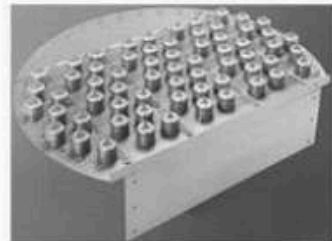
Sieve Tray



Valve Tray



Bubble Cap Tray



Trays are designed to amplify vapour-liquid contact by considering the liquid distribution and vapour distribution on the tray. This is because better vapour-liquid contact means better separation at each tray and lead to a better column performance.

Less trays will be needed to achieve the same level of separation. The benefits include less energy consumption and lower development costs.

OUR PRODUCT

Metal Random Packing



R-Ring



P-Ring



C-Ring

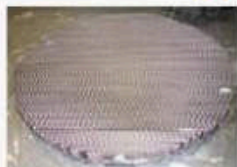


I-Ring

Random Packing has many applications and it been widely used in many sector of industries. As an example, it is used in the chemical, metallurgy, coal gas, environmental protection industries for gas and liquid separations in dying towers, absorption towers, cooling towers, washing towers and regeneration towers. There are some main types of random packing stated below that can be referred to find the best and suitable one that you need.

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Standard Type



	Structured Packing									
Surface Area, m ² /m ³	64	84	175	200	220	250	300	350	450	500
Inclination										
45°	64 Y	125 Y	175 Y	200 Y	220 Y	250 Y	300 Y	350 Y	450 Y	500 Y
60°	64 X	125 X	175 X	200 X	220 X	250 X	300 X	350 X	450 X	500 X



Increasing Capacity



Increasing Efficiency

Wire Gauze Type

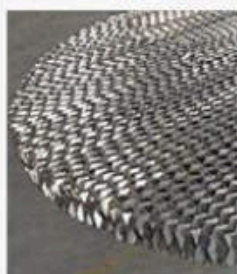


	Grid Packing				
Surface Area, m ² /m ³	40	45	55	64	90
Inclination					
45°	40 Y	45 Y	55 Y	64 Y	90 Y
60°	40 X	45 X	55 X	64 X	90 X



Wire gauze structured packing is made of various metal wires and then woven into wire gauze. This is the most widely used type of structured packing especially for processing specialty chemicals, pharmaceuticals and temperature-sensitive materials because it has advantages of high effectiveness, low pressure drop and large flow rate. It is also suitable for precise distillation and vacuum distillation devices. However, wire gauze structured packing is not suitable for fouling services and strongly corrosive media.

Grid Type



	Grid Packing				
Surface Area, m ² /m ³	40	45	55	64	90
Inclination					
45°	40 Y	45 Y	55 Y	64 Y	90 Y
60°	40 X	45 X	55 X	64 X	90 X



Grid structured packing are designed for severe services that are prone to plugging, coking, erosion and containing solids because it can provide high heat transfer efficiency, high mechanical strength and antifouling characteristics. Moreover, grid structured packing has robust mechanical structure, fabricated in modules for ease of installation and cleaning.

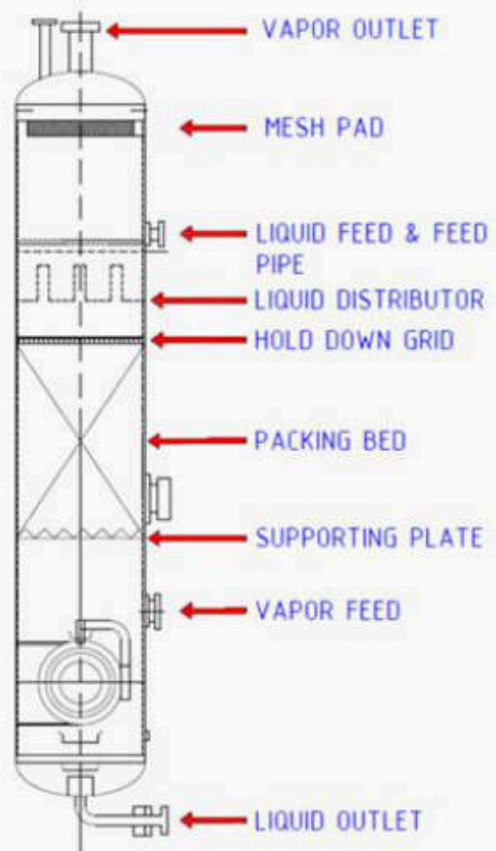
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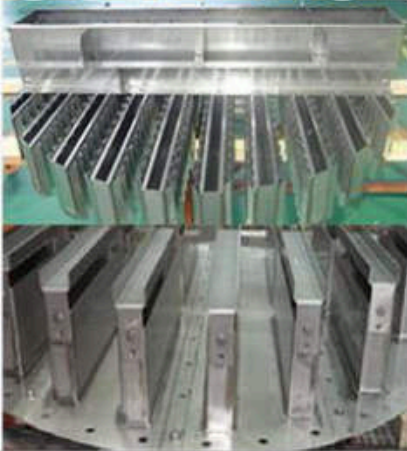
Column Internals

Columns are regularly used to perform chemical and/or thermal separations. However, column requires some internal components to be installed in which help facilitate the separation process. In any column system, the best performance of packing is very important and it can be obtained when complemented with appropriate designed of tower distributors, collectors, supports and other column internals to get an optimum liquid - vapour distribution to the packed beds. Column internals also playing significant part for attaining greater throughput, lower pressure drops & better mass transfer efficiency.

Packed Tower



OUR PRODUCT



Liquid Distributor

- low gas-side pressure drop
- low sensitivity to fouling
- low overall height



Support Grid & Hold-down Grid

- Bed height
- Liquid holdup
- Type of packing
- Additional weight from fouling
- Design temperature for specific application



Hold-down grid are situated above the packed bed which it will hold the packed bed in position to prevent the movement or discharge of the packing. This grid is needed for some cases where packing can experience uplift because of high gas loading or sporadic pressure surges. In addition, intermixing within the column can be avoided by using the hold-down grid as it is used to separate packing of different sizes.



Liquid Collector

- Vapor distribution
- Liquid collection from above bed and conduction to below distributor
- Total or partial liquid draw-off

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Strainer



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Filter



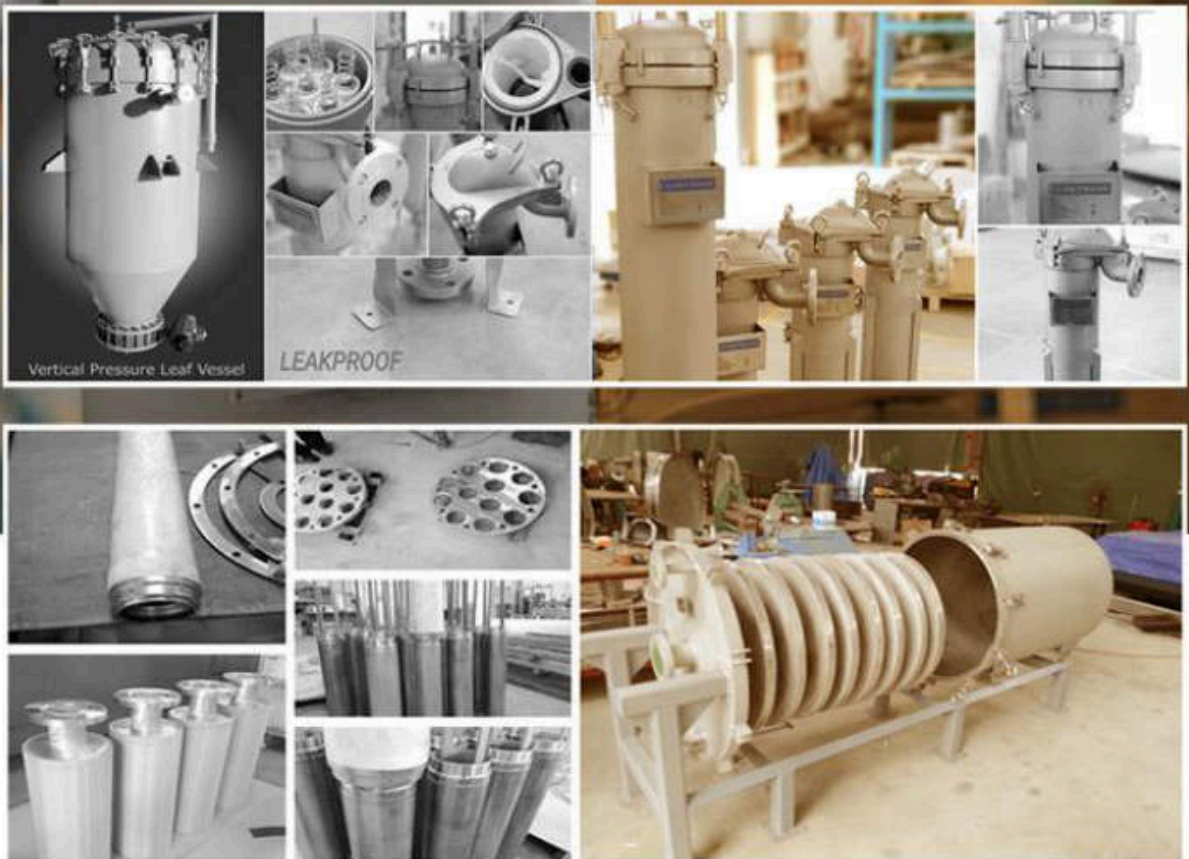
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- The process of removing solid particle in a liquid or gaseous by filter media.
- We produce mainly mechanical filtration equipment.
- Filter : Less Than < 40 microns (i.e Pressure Leave Filter, Polishing Filter, Cartridges Filters)
- Strainers : Largest Than > 40 Microns (i.e Basket Type, Y-Type, T-Type, Temporary Cone/Basket Strainers)

FILTRATION

FILTRATION PRODUCT



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SEPARATION PRODUCT

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OUR CAPABILITY AND SERVICES AVAILABLE

Basic Design Review

- Overall system examination
- Mechanical layout review (i.e nozzle size, nozzle location, tray spacing and internal element).

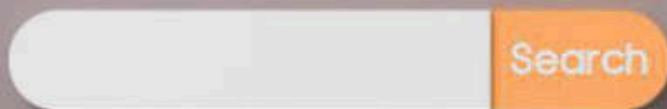
Existing Column Operation Review

- Operation conditions review.
 - Simulation model.
- Hydraulic review for filter, trays and packing and etc.

Optimization & Efficiency

- New material and energy balance proposals.
 - New operating conditions proposals.
- New & Modification proposals if required.

For more information
visit our website:



www.epalsamudera.com

Or e-mail us

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