

## Demisters

\& Tower Packings

Weave Impossible to Possible

# DEMISTER \& TOWER PACKING 

## 02.



Packed towers are used increasingly in a variety of applications in the chemical process industries, such as scrubbing, distillation and precipitation.

During packed tower, if the tower packing malfunctions, the mass transfer efficiency is greatly reduced and cause limitless problems and the entire process will suffer consequences that can be costly as well as lead to fines and shutdown.

Besides, if the filtration and separation is weak, there will be lots of pollutes discharges entraining valuable elements.

## How Boedon Solve?

Boedon offers demisters and tower packings for distillation, scrubbers and other packed towers to increase surface areas, minimize pressure drops and improve mass transfer efficiency. No matter you want to build a new unit or replace your existing packing towers, our specialist will select the appropriate tower packing products for each application to ensure efficiency, performance and service life.

## Products We Supply



## Demister Pads

Install at the top of packed towers to capture micron sized mists and dry the vapor. It help to to reduce air pollution, save valuable materials and increase quality of processed liquids.


Random Packings
Fills the column with random structures, which uneven distribution and orientation of the random packings increase the surface area and enhances the transfer of mass between two fluids


## Structured Packings

Honeycombed structures force fluids to take complicated paths down the length of the column to create a large surface area for contact between the liquid and the packing material without impeding gas flow.

## Demister Pads

## We can supply full ranges of demister pads for liquid and gas separation. We can supply drawings and installation guide for your projects.

Demister pads, also called demister, mister eliminator, vapor pad, is installed at the top of packed tower to be used for removing micron-sized liquid particles from a vapor stream. It is made of knitted wire mesh, which is woven interlocked to increase contact surface and improve separating efficiency. Stainless steel, copper, Monel and other alloy as well as polypropylene and other non-metallic materials make demister pad be used in more corrosive and high temperature applications. Generally, the demister pad is commonly used with structured packing and random packing

Demister pads can help to improve the operating condition, optimize process indicators, increase the amount of processing and recovery of valuable materials, protect the environment, and decrease air pollution.


## DEMISTER PADS

## Working Principles

The demister (demister pads) are installed at the top of packed tower. When the vapors carrying liquid entrainment rises at a constant speed and passes through the demister surface (interlocking knitted wire mesh), the vapor can easily passing through the demister while the rising liquid entrainment will collide with the mesh filament due to the inertia effect and are captured by the woven interlocked structure. Then the liquid will grow bigger and fall free when the droplets gravity exceeding vapor rising force and liquid surface tension force. As a result, the clean vapor passes through the demister and discharge out of the packed tower.


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DEMISTER PADS

## Materials

Material Products Separated

| SS304 | For nitric acid, water steam |
| :--- | :--- |
| SS304L | For petroleum Fractions |
| SS316 | For fatty acids, reduced crude |
| SS316L | Reduced crude containing acid \& other corrosive |
| Copper | Alcohol, Aldehyde, Amines |
| Monel | For caustic soda \& other alkali, dilute acid |
| Nickel | For caustic soda, food product |
| Alloy 20 | Nitric acid, alkaline PH |
| Teflon FEP | For Highly corrosive conditions |
| Hostaflon PTFE | For Highly corrosive conditions |
| Inconel 825 | For dilute acid media \& alkaline solution |
| Inconel 625 | For phosphoric and fatty acid |
| Polypropylene | For hydrilic acid, corrosive service at moderate temperature |
| P.V.D.F. | Corrosive Service for Temperature 140 ${ }^{\circ} \mathrm{C}$ |
| P.T.F.E. / FEP / PFA / | For highly corrosive and high temperature |
| ETFE / ECTFE |  |
| Hostaflon | Sulphuric acid plant, temperature up to 150 ${ }^{\circ} \mathrm{C}$ |
| Glass Wool | For very fine mists |



Stainless steel demister pad


PP demister pad

Technical Data of Demister Pads

| Item | $\begin{aligned} & \text { Density } \\ & \left(\mathrm{kg} / \mathrm{m}^{3}\right) \end{aligned}$ | $\begin{gathered} \text { Free volume } \\ (\%) \end{gathered}$ | $\begin{aligned} & \text { Surface area } \\ & \left(\mathrm{m}^{2} / \mathrm{m}^{3}\right) \end{aligned}$ | Application |
| :---: | :---: | :---: | :---: | :---: |
| BDP-80 | 80 | 99.0 | 158 | Moderate fouling, minimum press drop, dirty service |
| BDP-144 | 144 | 98.2 | 280 | Heavy duty, e.g. oil \& gas separators |
| BDP-128 | 128 | 98.4 | 460 | Light fouling, high velocity, dirty service |
| BDP-193 | 193 | 97.5 | 375 | General purpose, optimum efficiency \& pressure drop, heavy duty |
| BDP-220 | 220 | 97.2 | 905 | General purpose, optimum efficiency \& pressure drop, high corrosive condition |

## Features \& Application

Features

- Large surface area and high separating and removal efficiency.
- less maintenance and service required.
- Adapt to any corrosive and temperature conditions.
- Control emissions discharge and reduce air pollution
- Eliminate or reduce equipment damage caused by corrosion
- Increase the amount of processing and recovery of valuable materials


Chemical Process Industry

- Absorbers
- Distillation and Rectification Columns
- Distillation Plants for Sea Water
- Gas Compression
- Strippers
- Steam Drums



## Power Generation

- Desalination Plants for Sea Water
- Flue Gas Desulphurization (FGD)
- Steam Drums
-Compressors



## Oil and Gas Production

- Amine Absorbers
- Separators
- Compressors
- Glycol dehydration
- Scrubbers



## Refinery Operations

- Distillation
- Catalytic Cracking
- Alykylation
- Strippers
- Compressors
- Condensors


## Random Packing

## We offer random packing in different materials and structures to meet your various gas-liquid mass transfer demands.

Random packing can be made of metal, plastic or ceramic materials. It is an efficient tower packing widely used in distillation, absorption and fractionation links in chemical plants and refineries. Random packing is divided into Raschig rings, Pall rings, saddle rings, mini rings and customized rings by structure, featuring low pressure drop, high flow rate and high mass transfer performance. We can offer random packing to satisfy your separation demands and working environments.


## Working Principles

Random packing is widely used in absorption towers, distillation towers, degasification towers and stripping towers, aiming to achieve gas-liquid mass transfer. The following is an example of the working principle of random packing in stripping towers.

Stripping is a process of recovering the solute absorbed from the fluid and separating liquid from solute. First, differing from the orderly distribution of structured packing, random packing is randomly distributed on the packed bed, strippant (gas) enters from the bottom and moves upward. Dirty water sprays downward from tray distributors. During the process, the solute molecules are transferred into gases through an endothermic process. Gases and liquids contact each other in a form of counter-flow in the tower. The irregular distribution of random packing increases the surface area and enhances the mass transfer between two fluids. The solute turns into gas and mixes with strippant. Droplets are removed through the mist eliminator at the top of the tower and flows out from the top of the tower. Clean liquid moves downward due to gravity and flows out at the bottom of the tower.


## Specification

## Material _ Metal (stainless steel, carbon steel or other alloy), plastic (PP, PE, PVDF, etc.), ceramic

## Structure

Raschig ring, Pall ring, saddle ring, mini ring, etc.

## RANDOM PACKING

## Popular Types



Raschig ring
Metal/plastic/ceramic


Super mini ring
Metal/plastic/ceramic


Polyhedral hollow ball Plastic only


Pall ring
Metal/plastic/ceramic


Super Raschig ring
Metal only


Tri-Pack
Plastic only


Saddle ring
Metal/plastic/ceramic


VSP ring
Metal only


Pentagon ring
Plastic only


Cascade mini ring Metal/plastic/ceramic


Dixon ring
Metal only


Super saddle ring
Plastic/ceramic

## Raschig Ring



| Model | Size <br> $(\mathbf{D} \times \mathbf{T} \times \mathbf{H})$ <br> mm | Bulk Density | Bulk Quantity | Surface Area | Voidage (\%) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| - | $\mathrm{kg} / \mathrm{m}^{3}$ | $\left(\mathrm{pcs} / \mathrm{m}^{3}\right)$ | $\left(\mathrm{m}^{2} / \mathrm{m}^{3}\right)$ | $\%$ |  |
| BD-M-RR-01 | $16 \times 0.5 \times 16$ | 660 | 2480000 | 350 | 90 |
| BD-M-RR-02 | $25 \times 0.8 \times 25$ | 610 | 55000 | 220 | 93 |
| BD-M-RR-03 | $50 \times 1.0 \times 50$ | 430 | 7000 | 110 | 95 |
| BD-M-RR-04 | $80 \times 1.0 \times 80$ | 400 | 1820 | 60 | 96 |
| BD-P-RR-05 | $25 \times 1.0 \times 25$ | 88 | 48500 | 210 | 90 |
| BD-P-RR-06 | $50 \times 1.5 \times 50$ | 65 | 6500 | 105 | 92 |
| BD-C-RR-07 | $6 \times 2 \times 6$ | 750 | 3110000 | 789 | 73 |
| BD-C-RR-08 | $10 \times 2 \times 10$ | 700 | 720000 | 460 | 70 |
| BD-C-RR-09 | $15 \times 2 \times 15$ | 700 | 250000 | 350 | 70 |
| BD-C-RR-10 | $25 \times 2.5 \times 25$ | 600 | 49000 | 235 | 78 |
| BD-C-RR-11 | $38 \times 4 \times 38$ | 550 | 1200 | 178 | 75 |
| BD-C-RR-12 | $50 \times 5 \times 50$ | 530 | 6800 | 136 | 81 |
| BD-C-RR-13 | $80 \times 8 \times 80$ | 650 | 1930 | 108 | 680 |
| BD-C-RR-14 | $100 \times 10 \times 10$ | 680 | 100 | 90 | 70 |
| BD-C-RR-15 | $150 \times 15 \times 150$ | 700 | 295 | 75 | 68 |

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RANDOM PACKING

## Saddle Ring



| Model <br> - | $\begin{gathered} \text { Size } \\ (\mathrm{D} \times \mathrm{T} \times \mathrm{H}) \\ \mathrm{mm} \end{gathered}$ | Bulk Density $\mathrm{kg} / \mathrm{m}^{3}$ | Bulk Quantity (pcs/m ${ }^{3}$ ) | Surface Area $\left(\mathrm{m}^{2} / \mathrm{m}^{3}\right)$ | Voidage( \%) \% |
| :---: | :---: | :---: | :---: | :---: | :---: |
| BD-M-PR-01 | $16 \times 0.3 \times 16$ | 360 | 201000 | 346 | 95.5 |
| BD-M-PR-02 | $25 \times 0.4 \times 25$ | 302 | 5100 | 212 | 96.2 |
| BD-M-PR-03 | $25 \times 0.5 \times 25$ | 400 | 54000 | 216 | 95 |
| BD-M-PR-04 | $25 \times 0.6 \times 25$ | 461 | 5400 | 219 | 94.2 |
| BD-M-PR-05 | $38 \times 0.4 \times 38$ | 262 | 15180 | 145 | 96.7 |
| BD-M-PR-06 | $38 \times 0.6 \times 38$ | 328 | 15000 | 146 | 95.9 |
| BD-M-PR-07 | $50 \times 0.5 \times 50$ | 194 | 6500 | 106 | 97.5 |
| BD-M-PR-08 | $50 \times 0.7 \times 50$ | 285 | 6500 | 108 | 96.4 |
| BD-M-PR-09 | $50 \times 0.9 \times 50$ | 365 | 6500 | 109 | 95.4 |
| BD-M-PR-10 | $76 \times 0.8 \times 76$ | 205 | 183 | 69 | 97.4 |
| BD-M-PR-11 | $90 \times 1.0 \times 90$ | 229 | 1160 | 62 | 97.1 |
| BD-P-PR-12 | $16 \times 1 \times 16$ | 141 | 230000 | 260 | 91 |
| BD-P-PR-13 | $25 \times 1.2 \times 25$ | 85 | 48300 | 213 | 91 |
| BD-P-PR-14 | $38 \times 1.4 \times 38$ | 82 | 15800 | 151 | 91 |
| BD-P-PR-15 | $50 \times 1.5 \times 50$ | 60 | 6300 | 100 | 92 |
| BD-P-PR-16 | $76 \times 2.6 \times 76$ | 62 | 1930 | 72 | 92 |
| BD-C-PR-17 | $38 \times 4 \times 38$ | 570 | 13400 | 150 | 75 |
| BD-C-PR-18 | $50 \times 5 \times 50$ | 550 | 6800 | 120 | 78 |
| BD-C-PR-19 | $80 \times 8 \times 80$ | 520 | 1950 | 75 | 80 |

## Saddle Ring



| Model | $\begin{gathered} \text { Size } \\ (\mathrm{D} \times \mathrm{T} \times \mathrm{H}) \\ \mathrm{mm} \end{gathered}$ | Bulk Density $\mathrm{kg} / \mathrm{m}^{3}$ | Bulk Quantity (pcs/m ${ }^{3}$ ) | Surface <br> Area $\left(\mathrm{m}^{2} / \mathrm{m}^{3}\right)$ | Voidage \% | Packing Factor $\mathrm{m}^{-1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BD-M-SR-01 | $16.5 \times 0.25 \times 10.6$ | 223 | 324110 | 275 | 97.2 | 300.2 |
| BD-M-SR-02 | $16.5 \times 0.3 \times 10.6$ | 263 | 324110 | 275 | 96.7 | 304.9 |
| BD-M-SR-03 | $25.9 \times 0.25 \times 12.6$ | 163 | 127180 | 415 | 94.8 | 489.2 |
| BD-M-SR-04 | $25.9 \times 0.3 \times 12.6$ | 192 | 127180 | 344 | 95.5 | 393.2 |
| BD-M-SR-05 | $25.9 \times 0.4 \times 12.6$ | 266 | 127180 | 199 | 96.6 | 221 |
| BD-M-SR-06 | $35.4 \times 0.25 \times 18.8$ | 124 | 51180 | 151 | 98.4 | 158.3 |
| BD-M-SR-07 | $35.4 \times 0.3 \times 18.8$ | 146 | 51180 | 151 | 98.1 | 159.7 |
| BD-M-SR-08 | $35.4 \times 0.4 \times 18.8$ | 203 | 51180 | 151 | 97.4 | 163.2 |
| BD-M-SR-09 | $48.5 \times 0.3 \times 28.6$ | 95 | 15550 | 97 | 98.8 | 101 |
| BD-M-SR-10 | $48.5 \times 0.4 \times 28.6$ | 132 | 15550 | 97 | 98.3 | 102.5 |
| BD-M-SR-11 | $48.5 \times 0.5 \times 28.6$ | 169 | 15550 | 97 | 97.9 | 103.9 |
| BD-M-SR-12 | $67 \times 0.4 \times 37$ | 113 | 9000 | 84 | 98.6 | 87.3 |
| BD-M-SR-13 | $67 \times 0.5 \times 37$ | 145 | 9000 | 84 | 98.2 | 88.4 |
| BD-M-SR-14 | $76.5 \times 0.4 \times 42.5$ | 83 | 4690 | 61 | 99 | 62.9 |
| BD-M-SR-15 | $76.5 \times 0.5 \times 42.5$ | 106 | 4690 | 61 | 98.7 | 63.5 |
| BD-P-SR-16 | $25 \times 1.2 \times 13$ | 102 | 97680 | 288 | 85 | 467 |
| BD-P-SR-17 | $38 \times 1.2 \times 19$ | 91 | 25200 | 264 | 95 | 309 |
| BD-P-SR-18 | $50 \times 1.5 \times 25$ | 75 | 9400 | 250 | 96 | 282 |
| BD-P-SR-19 | $76 \times 3 \times 38$ | 59 | 3700 | 200 | 97 | 220 |
| BD-C-SR-20 | $16 \times 2 \times 12$ | 710 | 382000 | 450 | 70 | 1311 |
| BD-C-SR-21 | $25 \times 3 \times 19$ | 610 | 84000 | 250 | 74 | 617 |
| BD-C-SR-22 | $38 \times 4 \times 30$ | 590 | 25000 | 164 | 75 | 389 |
| BD-C-SR-23 | $50 \times 5 \times 40$ | 560 | 9300 | 142 | 76 | 323 |
| BD-C-SR-24 | $76 \times 9 \times 57$ | 520 | 1800 | 91 | 78 | 194 |

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RANDOM PACKING

## Cascade Mini Ring



| Model | Size <br> $(\mathbf{D} \times \mathbf{T} \times \mathbf{H})$ | Bulk <br> Density | Bulk <br> Quantity <br> ( | Surface <br> Area | Voidage | Packing <br> Factor |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BD-M-CMR-01 | $25 \times 0.5 \times 12.5$ | 383 | 98120 | 221 | 95 | 257 |
| BD-M-CMR-02 | $38 \times 0.6 \times 19$ | 325 | 30040 | 153 | 96 | 173 |
| BD-M-CMR-03 | $50 \times 0.8 \times 25$ | 308 | 12340 | 109 | 96 | 123 |
| BD-M-CMR-04 | $76 \times 1.2 \times 38$ | 306 | 3540 | 72 | 96 | 81 |
| BD-P-CMR-05 | $25 \times 1.2 \times 13$ | 98 | 81500 | 228 | 90 | 313 |
| BD-P-CMR-06 | $38 \times 1.4 \times 19$ | 58 | 27200 | 133 | 93 | 176 |
| BD-P-CMR-07 | $50 \times 1.5 \times 25$ | 55 | 10740 | 114 | 94 | 143 |
| BD-P-CMR-08 | $76 \times 3 \times 38$ | 698 | 3420 | 90 | 93 | 112 |
| BD-C-CMR-09 | $25 \times 3 \times 15$ | 650 | 72000 | 210 | 73 | 540 |
| BD-C-CMR-10 | $38 \times 4 \times 23$ | 630 | 21600 | 153 | 74 | 378 |
| BD-C-CMR-11 | $50 \times 5 \times 30$ | 580 | 9100 | 102 | 76 | 232 |
| BD-C-CMR-12 | $76 \times 9 \times 46$ | 530 | 2500 | 75 | 78 | 158 |

## Super Mini Ring



| Model | Size <br> $(\mathbf{D} \times \mathbf{T} \times \mathbf{H})$ | Bulk <br> Density <br> - | Bulk <br> Quantity | Surface <br> Area | Voidage | Packing <br> Factor |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BD-M-SMR-01 | $16 \times 0.5 \times 5.5$ | 604 | 630000 | 348 | 92 | 312 |
| BD-M-SMR-02 | $25 \times 0.6 \times 9$ | 506 | 160000 | 228 | 94 | 280 |
| BD-M-SMR-03 | $38 \times 0.7 \times 12.7$ | 390 | 48000 | 150 | 95 | 175 |
| BD-M-SMR-04 | $50 \times 0.8 \times 17$ | 275 | 21500 | 115 | 97 | 156 |
| BD-P-SMR-05 | $38 \times 1.2 \times 12$ | 70 | 46000 | 145 | 92 | 186 |
| BD-P-SMR-06 | $50 \times 1.5 \times 17$ | 67 | 21500 | 128 | 93 | 159 |
| BD-P-SMR-07 | $76 \times 2.5 \times 26$ | 58 | 6500 | 116 | 93 | 144 |
| BD-C-SMR-08 | $16 \times 1.5 \times 10$ | 750 | 300500 | 250 | 87 | 1150 |
| BD-C-SMR-09 | $25 \times 2.0 \times 16$ | 700 | 87040 | 180 | 85 | 800 |
| BD-C-SMR-10 | $30 \times 2.5 \times 18$ | 690 | 55000 | 170 | 85 | 850 |
| BD-C-SMR-11 | $38 \times 3.5 \times 23$ | 720 | 27600 | 140 | 85 | 905 |
| BD-C-SMR-12 | $50 \times 4.5 \times 30$ | 650 | 10100 | 110 | 84 | 880 |

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RANDOM PACKING

## Super Raschig Ring



| Model | Size mm | $\begin{gathered} \text { Bulk Density } \\ 304 \\ \mathrm{~kg} / \mathrm{m}^{3} \end{gathered}$ | Bulk Quantity (pcs/m ${ }^{3}$ ) | Surface Area ( $\mathrm{m}^{2} / \mathrm{m}^{3}$ ) | Voidage \% | Packing Factor $\mathrm{m}^{-1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BD-M-SRR-01 | 0.3 | 230 | 180000 | 315 | 97.1 | 343.9 |
| BD-M-SRR-02 | 0.5 | 275 | 145000 | 250 | 96.5 | 278 |
| BD-M-SRR-03 | 0.6 | 310 | 145000 | 215 | 96.1 | 393.2 |
| BD-M-SRR-04 | 0.7 | 240 | 45500 | 180 | 97 | 242.2 |
| BD-M-SRR-05 | 1 | 220 | 32000 | 150 | 97.2 | 163.3 |
| BD-M-SRR-06 | 1.5 | 170 | 13100 | 120 | 97.8 | 128 |
| BD-M-SRR-07 | 2 | 165 | 9500 | 100 | 97.9 | 106.5 |
| BD-M-SRR-08 | 3 | 150 | 4300 | 80 | 98.1 | 84.7 |
| BD-M-SRR-09 | 3.5 | 150 | 3600 | 67 | 98.1 | 71 |

## Metal VSP Ring



| Model - | Size $(D \times T \times H)$ <br> mm | $\begin{gathered} \text { Bulk Density } \\ 304 \\ \mathrm{~kg} / \mathrm{m}^{3} \\ \hline \end{gathered}$ | Bulk Quantity (pcs/m³) | Surface Area $\left(\mathrm{m}^{2} / \mathrm{m}^{3}\right)$ | Voidage \% | Packing Factor $\mathrm{m}^{-1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BD-M-VSPR-01 | $25 \times 0.6 \times 25$ | 420 | 59200 | 250 | 93 | 310 |
| BD-M-VSPR-02 | $38 \times 0.6 \times 38$ | 396 | 14000 | 138 | 94.7 | 163 |
| BD-M-VSPR-03 | $50 \times 0.8 \times 50$ | 350 | 7000 | 121 | 95 | 144 |
| BD-M-VSPR-04 | $76 \times 1.0 \times 76$ | 280 | 1950 | 75 | 95 | 86 |

## Dixon <br> 



| Model | Specs | Mesh <br> Size <br> mesh | Tower <br> Diameter <br> mm | Theoretical <br> Plate <br> $\mathrm{pcs} / \mathrm{m}$ | Bulk <br> Density <br> $\left(\mathrm{kg} / \mathrm{m}^{3}\right)$ | Surface <br> Area <br> $\left(\mathrm{m}^{2} / \mathrm{m}^{3}\right)$ | Voidage | Pressure <br> Drop |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| mm |  |  |  |  |  |  |  |  |

## Plastic Polyhedral Hollow Ring


\(\left.\begin{array}{ccccccc}Model \& Size \& Bulk Density \& Bulk Quantity \& Surface Area \& Voidage \& Packing Factor <br>

- \& \mathrm{mm} \& \mathrm{kg} / \mathrm{m}^{3} \& \left(\mathrm{pcs} / \mathrm{m}^{3}\right) \& \left(\mathrm{m}^{2} / \mathrm{m}^{3}\right) \& 460 \& \mathrm{~m}^{-1}\end{array}\right]\)| $\%$ |
| :---: |
| BD-P-PHB-01 |
| BD-P-PHB-02 |

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## Plastic Tri-Pack Ring



| Model | Size <br> mm | Bulk Density $\mathrm{kg} / \mathrm{m}^{3}$ | Bulk Quantity (pcs/m ${ }^{3}$ ) | Surface Area $\left(\mathrm{m}^{2} / \mathrm{m}^{3}\right)$ | Voidage \% | Packing Factor $\mathrm{m}^{-1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BD-P-TPR-01 | 25 | 81 | 81200 | 85 | 90 | 28 |
| BD-P-TPR-02 | 32 | 70 | 25000 | 70 | 92 | 25 |
| BD-P-TPR-03 | 50 | 62 | 11500 | 48 | 93 | 16 |
| BD-P-TPR-04 | 95 | 45 | 1800 | 38 | 95 | 12 |

RANDOM PACKING

## Plastic Pentagon Ring



| Model | Size (D×T×H) |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - | mm | Bulk Density <br> $\mathrm{kg} / \mathrm{m}^{3}$ | Bulk Quantity <br> $\left(\mathrm{pcs} / \mathrm{m}^{3}\right)$ | Surface Area <br> $\left(\mathrm{m}^{2} / \mathrm{m}^{3}\right)$ | Voidage <br> $\%$ | Packing Factor <br> $\mathrm{m}^{-1}$ |
| BD-P-PR-01 | $38 \times 12 \times 1.2$ | 112 | 46000 | 246 | 95 | 260.3 |
| BD-P-PR-02 | $50 \times 17 \times 1.5$ | 107 | 21500 | 218 | 97 | 225.2 |
| BD-P-PR-03 | $76 \times 26 \times 2.5$ | 92 | 6500 | 198 | 96 | 207.1 |

## RANDOM PACKING

## Supper Saddle Ring



| Model | Size $(\mathbf{D} \times \mathrm{T} \times \mathrm{H})$ mm | Bulk Density $\mathrm{kg} / \mathrm{m}^{3}$ | Bulk Quantity ( $\mathrm{pcs} / \mathrm{m}^{3}$ ) | Surface Area $\left(\mathrm{m}^{2} / \mathrm{m}^{3}\right)$ | Voidage \% | Packing Factor $\mathrm{m}^{-1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BD-P-SSR-01 | $25 \times 1.2 \times 20$ | 56000 | 238 | 85 | 340 | 260.3 |
| BD-P-SSR-02 | $38 \times 1.2 \times 19$ | 25200 | 178 | 75 | 201 | 225.2 |
| BD-P-SSR-03 | $50 \times 1.5 \times 25$ | 9400 | 168 | 68 | 184 | 260.3 |
| BD-P-SSR-04 | $76 \times 3 \times 38$ | 3700 | 130 | 52 | 138 | 225.2 |
| BD-C-SSR-05 | $25 \times 3 \times 20$ | 76600 | 190 | 78 | 340 | 260.3 |
| BD-C-SSR-06 | $38 \times 4 \times 30$ | 24600 | 131 | 84 | 190 | 225.2 |
| BD-C-SSR-07 | $50 \times 6 \times 42$ | 7344 | 88.4 | 81 | 166 | 260.3 |
| BD-C-SSR-08 | $76 \times 9 \times 53$ | 1976 | 58.5 | 77 | 127 | 225.2 |

## Features \& Application

Features

## Application

# Structured Packing 

## We supply a wide range of metal, ceramic and plastic structured packing to meet your various industrial separation and distillation demands.

Structured packing is a kind of a geometrically shaped and corrugated packing. Differing from random packing, structured packing is neatly piled in the tower. A series corrugated layers make up each packing element, so that gas/liquid is spread and distributed radially from layer to layer within the element and creates a large contact area between the gas/liquid and the packing. Structured packing features large surface area, low pressure drop, uniform fluids, high efficient thermal and mass transfer, etc. It is widely used for the rectification, absorption and extraction in various fields.

According to the corrugated angle, it is divided into $X$ type and $Y$ type. $X$ type stands for the $30^{\circ}$ angle and the $Y$ type stands for the $45^{\circ}$ angle. X type structured packing has low pressure drop and Y type structured packing has better mass transfer property.


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## Metal Structured Packing

It can be made of various metal materials, such as low carbon steel, stainless steel, duplex stainless steel, Monel, Titanium alloy and others. The stainless steel structured packing is the most widely used due to its excellent corrosion and rust resistance and durable properties. Metal structured packing has different packing types, which can be divided into grid structured packing, woven structured packing, perforated structured packing and protruded structured packing.

Metal gird structured packing
Features smooth surface and large contact area.

Metal perforated structured packing
Is used for rectification and absorption applications.


Metal woven structured packing
Is used for distillation of thermosenstive products


Metal protruded structured packing
Improves its lubricating property and ensures efficient filtration.


## Ceramic Structured Packing



It consists of many similar geometric design packing units. The geometric design is a series of corrugated sheets, which are placed in parallel.
Ceramic structured packing has high filtering and separating efficiency to suit the complex applications. It also has low pressure drop, increased operating elasticity, and maximum liquid treatment. Ceramic structured packing can be made into round or rectangular shapes to suit different applications. It can be made into various independent units to facilitate the transportation and assembly of structured packing with large diameters.

## STRUCTURED PACKING

## Plastic Structured Packing

It is generally plastic perforated structured packing. The perforated structured packing is made of PP and PE materials and the plate packing is made of PP or PVDF materials. Openings can be added onto the plate to improve the mass transfer efficiency. Plastic wire gauze packing made of PP or PE materials are also available. Similar to the ceramic structure packing and metal structured packing, the plastic structured packing can also be made into round or rectangular shapes. Special shapes can be customized.


## STRUCTURED PACKING

## Specification

Material

metal (stainless steel, low carbon steel, duplex stainless steel, Monel, Titanium alloy, etc.), plastic, ceramic

Arrangement _ $\quad X$ type $\left(30^{\circ}\right)$ and $Y$ type $\left(45^{\circ}\right)$ corrugated angle geometrical shape.

## sTRUCTURED PACKING

## Metal Grid



| Model | Mould | Surface Area <br> $m^{2} / \mathrm{m}^{3}$ | Height (mm) <br> mm | Surface Structure <br> Material Thickness | mm |
| :---: | :---: | :---: | :---: | :---: | :---: |
| BD-M-GSP-90X | $90 X$ | 90 | 140 | Smooth | $0.5-2$ |
| BD-M-GSP-64X | $64 X$ | 64 | 220 | Smooth | $0.5-2$ |
| BD-M-GSP-64Y | $64 Y$ | 64 | 130 | Smooth | $0.5-2$ |
| BD-M-GSP-40Y | $40 Y$ | 40 | 200 | Smooth | $0.5-2$ |

## Metal Woven



| Model | Mould | Surface Area | Bulk Density |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - | - | $\mathrm{m}^{2} / \mathrm{m}^{3}$ | $\mathrm{~kg} / \mathrm{m}^{3}$ | Voidage | Pressure Drop | Theoretical Plate Number |
| BD-M-MSP-250X | $250 X$ | 250 | 125 | 95 | $100-400$ | $\mathrm{~m}^{-1}$ |
| BD-M-MSP-500X | $500 X$ | 500 | 250 | 90 | 400 | $2.5-3$ |
| BD-M-MSP-700Y | $700 Y$ | 700 | 280 | 85 | $600-700$ | $4-5$ |

STRUCTURED PACKING

## Metal Perforated



| Model |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - | Mould |  |  |  |  |  |
| - | Surface Area <br> $\mathrm{m}^{2} / \mathrm{m}^{3}$ | Bulk Density <br> $\mathrm{kg} / \mathrm{m}^{3}$ | Voidage <br> $\%$ | Pressure Drop <br> $\mathrm{Pa} / \mathrm{m}^{3}$ | Theoretical Plate Number |  |
| BD-M-PSP-125Y | $125 Y$ | 125 | 100 | 98 | 200 | $1-1.2$ |
| BD-M-PSP-250Y | $250 Y$ | 250 | 200 | 97 | 300 | $2-2.5$ |
| BD-M-PSP-350Y | $350 Y$ | 350 | 280 | 94 | 350 | $3.5-4$ |
| BD-M-PSP-500Y | $500 Y$ | 500 | 360 | 92 | 400 | $4-4.5$ |
| BD-M-PSP-125X | $125 X$ | 125 | 100 | 98 | 140 | $0.8-0.9$ |
| BD-M-PSP-250X | $250 X$ | 250 | 200 | 97 | 180 | $1.6-2$ |
| BD-M-PSP-350X | $350 X$ | 350 | 280 | 94 | 230 | $2.3-2.8$ |
| BD-M-PSP-500X | $500 X$ | 500 | 360 | 92 | 280 | $2.8-3.2$ |

## Ceramic Structured Packing



| Model | Mould | Voidage \% | Plate Thickness mm | Bulk Density $\mathrm{kg} / \mathrm{m}^{3}$ | Peak Height mm | Corrugation Distance \% | $\begin{gathered} \text { F Factor } \\ \mathrm{m} / \mathrm{s} \\ \left(\mathrm{~kg} / \mathrm{m}^{3}\right)^{0.5} \end{gathered}$ | Theoretical Plate Number $\mathrm{m}^{-1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BD-C-SP-125Y | 125 Y | 85 | $2.5 \pm 0.5$ | 490 | 23 | 42 | 3 | 1-1.5 |
| BD-C-SP-150Y | 150Y | 84 | $2.2 \pm 0.2$ | 520 | 17 | 30 | 2.8 | 1.5-2 |
| BD-C-SP-250Y | 250Y | 82 | $1.4 \pm 0.2$ | 580 | 13 | 22 | 2.5 | 2-3 |
| BD-C-SP-350Y | 350Y | 80 | $1.2 \pm 0.2$ | 590 | 9 | 15 | 2 | 3.5-4 |
| BD-C-SP-450Y | 450Y | 76 | $1 \pm 0.2$ | 630 | 6.5 | 11 | 1.5-2 | 4-5 |
| BD-C-SP-500Y | 500Y | 72 | $0.8 \pm 0.2$ | 650 | 6 | 10-10.5 | 9-12 | 5-6 |
| BD-C-SP-550Y(X) | 550Y(X) | 74 | $0.8 \pm 0.2$ | 680 | 5 | 10 | 1-1.3 | 5-6 |
| BD-C-SP-700Y(X) | 700Y(X) | 72 | $0.8 \pm 0.2$ | 700 | 4.5 | 8 | 1.2-1.4 | 6-7 |

## Plastic Structured Packing



| Model - | Mould | Voidage \% | Plate Thickness mm | Bulk Density $\mathrm{kg} / \mathrm{m}^{3}$ | Peak Height mm | Corrugation Distance \% | $\begin{gathered} \text { F Factor } \\ \mathrm{m} / \mathrm{s} \\ \left(\mathrm{~kg} / \mathrm{m}^{3}\right)^{0.5} \\ \hline \end{gathered}$ | Theoretical Plate Number $\mathrm{m}^{-1}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| BD-P-SP-125Y | 125Y | 125 | 98.5 | 37.5 | 200 | 0.2-100 | 3 | 1.0-2.0 |
| BD-P-SP-125X | 125X | 125 | 98.5 | 37.5 | 140 | 0.2-100 | 3.5 | 0.8-0.9 |
| BD-P-SP-250Y | 250Y | 250 | 97 | 75 | 300 | 0.2-100 | 2.6 | 2.0-2.5 |
| BD-P-SP-250X | 250X | 250 | 97 | 75 | 180 | 0.2-100 | 2.8 | 1.5-2.0 |
| BD-P-SP-350Y | 350Y | 350 | 95 | 105 | 200 | 0.2-100 | 2 | 3.5-4.0 |
| BD-P-SP-350X | 350X | 350 | 95 | 105 | 130 | 0.2-100 | 2.2 | 2.3-2.8 |
| BD-P-SP-550Y | 550Y | 550 | 93 | 150 | 300 | 0.2-100 | 1.8 | 4.0-4.5 |
| BD-P-SP-500X | 500X | 500 | 93 | 150 | 180 | 0.2-100 | 2 | 2.8-3.2 |

## Features \& Application

Features

- Low pressure drop
- Large contact area
- High separation and filtering efficiency
- High capacity
- Reduced liquid hold-up performance
- Corrosion and high temperature resistance


## Application

## Chemical

- Degasification
- Extraction
- Degasification, etc.

Oil \& Gas

- Dehydration
- Separation
- Absorption, etc.


## Pharmaceutical

- Dehydration
- Extraction, etc.


## Weave Impossible <br> to Possible

