

PRODUCT BULLETIN

# Distillation Trays

Sieve, bubble cap, fixed and movable valve trays, and special trays, for new columns, revamps and maintenance.

Techim, Versailles, France

commercial@techim.fr | www.techim.fr

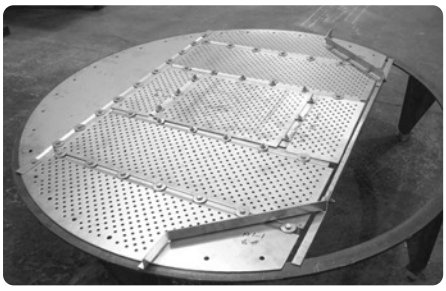
**Techim**
15 rue du Général Leclerc, 78000 Versailles, France
Tel. +33 1 39 50 03 57 | commercial@techim.fr | www.techim.fr



Whether you are designing a new column, revamping an existing column or just carrying out maintenance, whatever your requirement is for trays, we have the answer.

We design, manufacture and install all types of trays including, but not limited to, dual flow trays, baffle trays, disc and donut trays, sieve trays, valve trays, bubble or tunnel cap trays.

Let our considerable experience and expertise assist you in making and implementing the most appropriate solution, at minimum cost, not only to achieve the desired throughput but also to accommodate feed rate variations and minimise downtime.



Sieve trays
1800 mm Ø dephosgenation column

## Sieve Trays

Sieve trays are the basic type of fractionation tray, typically using ½" diameter holes with an open area between 5 and 15%.

They have a moderate pressure drop with average capacity and separation efficiency.

Sieve trays offer a key advantage of cost. However, flexibility is limited to 2 to 1 and in addition sieve trays are not suitable for fouling services.

## Bubble Cap Trays

Bubble cap trays are used in applications with very low liquid loading and requiring a very high flexibility (e.g. an operating range of 10 to 1) such as in batch distillations.

Bubble caps are either slotted type or un-slotted type, both in a full range of sizes (2" nb to 6" nb).

Bubble cap trays have a high pressure drop with low capacity and separation efficiency. They are not suitable for fouling services.



Bubble cap trays, slotted type
1829 mm Ø vacuum flash tower



FXV60 valve trays
1100 mm Ø MCB elimination column

## FXV Valve Trays

The FXV valve is a stationary (fixed) valve pressed up from the tray deck and is supplied in 4 different sizes with varying lifts:

| | | |
|---|---|---|
| Double-mini size | **FXV20** | |
| Mini size | **FXV30** | shown on the front page |
| Standard size | **FXV60** | shown here |
| Large size | **FXV110** | |

Compared to sieve trays, the FXV valve trays give:

- higher capacity
- greater flexibility, with a normal operating range of 3 to 1
- increased mechanical strength
- longer service life
- higher efficiency (due to a distinct trapezoidal shape giving plug flow)

FXV valves are excellent for fouling services, e.g. for columns within an HF alkylation unit.

 SAS with share capital of EUR 125,000 | RCS Versailles B 305 419 574 | VAT FR32305419574 

**Techim**
15 rue du Général Leclerc, 78000 Versailles, France
Tel. +33 1 39 50 03 57 | commercial@techim.fr | www.techim.fr





STD valve trays
2700 mm Ø MCB elimination column

## STD Valve Trays

**The STD valve is an industry standard movable valve.** The valve is made in one piece with 3 legs and is normally supplied with dimples to limit the contact with the tray deck to 3 points when shut.

These valves are used for general applications except where there is a risk of fouling.

Alternate rows of light valves (1.5 mm thick) and heavy valves (2.0 mm thick) are used to maximise turndown. Typical operating range is 4 to 1.

Very light valves (1.2 mm thick) are used to minimise the (dry) pressure drop.

## RMV Valve Trays

The RMV valves are rectangular movable valves used for general and special applications. Two sizes are used to suit the column diameter:

**RMV60** small diameter columns
**RMV120** large diameter columns

The rectangular shape offers the following advantages:

- maximum open area for high vapour load services
- variable open area to suit vapour flow
- higher efficiency due to plug flow



RMV60 valve trays
1450 mm Ø MeOH dryer column



LCD valve trays
2273 mm Ø Tifane elimination column

## NCD Valve Trays

The NCD valve is a 2-piece valve, where a 4-legged hold-down cage (securely attached to the tray deck) contains a movable valve disc. These valves are used for general applications like the STD valve but with the following advantages:

- longer lasting in service
- less risk of sticking shut or open
- suitable for fouling services
- increased flexibility due to less liquid weeping

Alternate rows of light (1.5 mm thick) and heavy (2.0 mm thick) discs can be used to maximise turndown.

## LCD Valve Trays

These are NCD valves with a very light disc (1.2 mm thick) to reduce (dry) pressure drop.

## VCD Valve Trays

These are NCD valves with a very light disc (1.2 mm thick) plus a venturi hole to minimise (dry) pressure drop.

 SAS with share capital of EUR 125,000 | RCS Versailles B 305 419 574 | VAT FR32305419574 

# Special Trays

Examples include:

- Disc and donut trays
- Ripple trays
- Tunnel cap trays



Disc and donut trays, bundle construction
2600 mm Ø deaerator tower



Tunnel cap trays
3658 mm Ø rerun main column



Ripple trays
5791 mm Ø ethylene quench tower / primary fractionator



Tunnel cap trays, detail

## Talk to us about your project

Send us your column data and operating conditions: our engineers will propose the most appropriate tray design.

**Techim**
15 rue du Général Leclerc
78000 Versailles, France
Tel. +33 1 39 50 03 57
commercial@techim.fr | www.techim.fr