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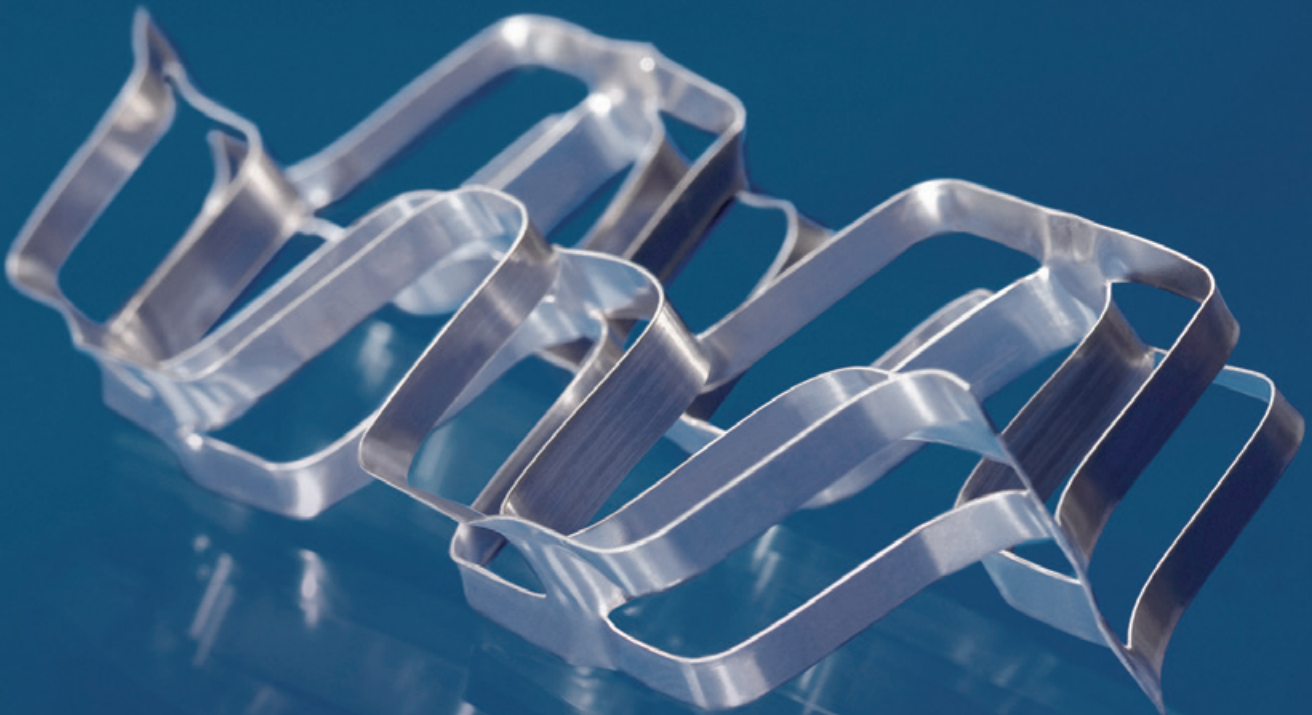
TÜVRheinland®  
**CERT**  
ISO 9001

+++Tower Packings+++Inert-Balls+++Catalyst Support Materials+++Column Internals+++Droplet Separators+++

# VFF-Twin-Pak®

Extremely low pressure drop  
with best mass transfer

Please give us a call  
**+ 49 (0) 26 23 / 895 - 23**



VFF-patent

# VFF – Experience that pays off

Founded in 1967, VFF very quickly developed into the biggest manufacturer of tower packings and inert balls in Europe due to permanent innovations and highest quality standards. In the meantime, VFF is a globally acting company with more than 30 representations.

From the decades of cooperation with the customers and the intense involvement in the product, VFF can fall back on comprehensive know-how, which formed the basis of the completely new development of the VFF-Twin-Pak®, a modern high-performance metal tower packing. The VFF-Twin-Pak® was developed for a circle of customers with highest demands and offers an extremely low pressure drop with the best possible mass transfer! The new VFF-Twin-Pak® is characterised by highest capacity and an excellent stability at great filling heights.

In order to still be able to maintain the quality lead of the VFF products in future and to extend them even further, VFF continues to rely on “100% Made in Germany” for its products.



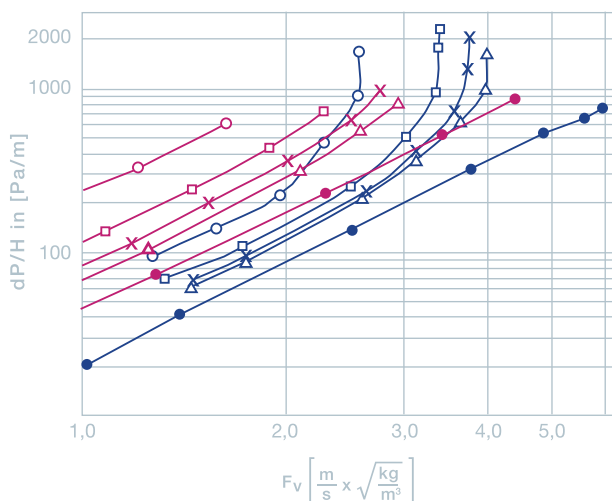
You can also find further information about VFF's products online at [www.vff.com](http://www.vff.com) and [www.vff-twin-pak.de](http://www.vff-twin-pak.de)

## VFF-Twin-Pak® – Extremely low pressure drop with best mass transfer

The VFF-Twin-Pak®, a VFF-patent, is an entirely newly developed high-performance metal tower packing with a profile that comes close to the structured packings, while not doing without the numerous advantages of a tower packing. Its form combines an extremely low pressure drop with a convincing mass transfer! The VFF-Twin-Pak® is a high-performance tower packing, predestined for highest capacity.

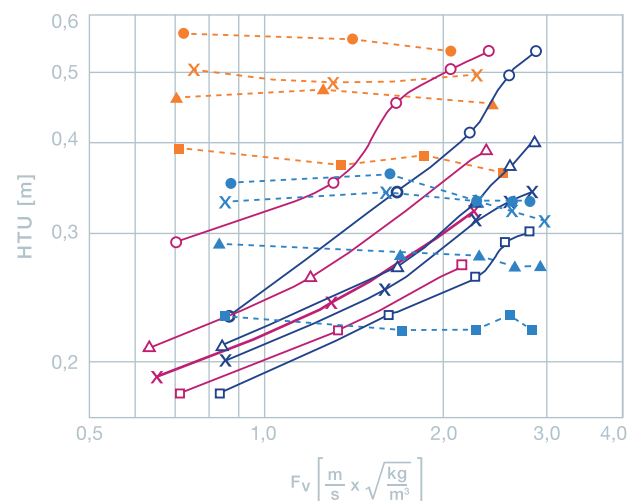
The mass transfer of the new VFF-Twin-Pak® is superior to that of a proven tower packing of an equivalent nominal size. The specific pressure drop of the VFF-Twin-Pak®, however, at more than a third below, is significantly lower than the level of the comparable tower packing. In other words: The VFF-Twin-Pak® offers highest capacity while clearly saving costs!

dP/H: VFF-Twin-Pak® No. 2 vs. Pall-50-M



- |                            |                   |
|----------------------------|-------------------|
| <b>VFF-Twin-Pak® No. 2</b> | <b>Pall-50-M</b>  |
| ● uL = 0 m³/m²h            | ● uL = 0 m³/m²h   |
| ▲ uL = 30 m³/m²h           | ▲ uL = 30 m³/m²h  |
| × uL = 40 m³/m²h           | × uL = 40 m³/m²h  |
| □ uL = 60 m³/m²h           | □ uL = 60 m³/m²h  |
| ○ uL = 100 m³/m²h          | ○ uL = 100 m³/m²h |

HTU: VFF-Twin-Pak® No. 2 vs. Pall-50-M



- |  |  |
|--|--|
| <b>VFF-Twin-Pak® No. 2 / HTUov-NH₃</b> | <b>VFF-Twin-Pak® No. 2 / HTUoL-CO₂</b> |
| ○ uL = 10 m³/m²h                       | ■ uL = 10 m³/m²h                       |
| ▲ uL = 20 m³/m²h                       | ▲ uL = 20 m³/m²h                       |
| × uL = 30 m³/m²h                       | × uL = 30 m³/m²h                       |
| □ uL = 40 m³/m²h                       | ● uL = 40 m³/m²h                       |
| <b>Pall-50-M / HTUov-NH₃</b>           | <b>Pall-50-M / HTUoL-CO₂</b>           |
| ○ uL = 10 m³/m²h                       | ■ uL = 10 m³/m²h                       |
| ▲ uL = 20 m³/m²h                       | ▲ uL = 20 m³/m²h                       |
| × uL = 30 m³/m²h                       | × uL = 30 m³/m²h                       |
| □ uL = 40 m³/m²h                       | ● uL = 40 m³/m²h                       |

# VFF-Twin-Pak® – Advantages at a glance

## Highest capacity – fair price

The VFF-Twin-Pak® offers highest capacity ... at a fair price! This was only able to be realised by intense involvement with new geometries and by the new manufacturing methods developed by VFF. This modern high-performance tower packing combines an extremely low pressure drop with a convincing mass transfer. In other words: Highest capacity while clearly saving costs!

## Directly from the manufacturer

As the largest manufacturer of tower packings and inert balls in Europe, VFF is in a position to react to customer inquiries within a very short time. This saves the customer long lead times and storage costs. Individual wishes (e.g. packaging) can be realised by VFF at any time. Particularly where a contract exists with the customer, VFF is able to guarantee appropriate quantities being available at call in the desired packaging.

## Highest mechanical stability for great filling heights

By means of the new manufacturing method developed by VFF and its special design, the VFF-Twin-Pak® can convince by a high degree of design-related mechanical stability. This allows the trouble-free realisation of a great filling height in a single bed at a low weight. (cf. table: Characteristic data of the VFF-Twin-Pak®)

## Tailor made: Individual wall thicknesses and materials

When the VFF-Twin-Pak® was designed, priority was placed on the demands of the VFF customers on a high-performance tower packing. Therefore, when it came to the manufacturing method, attention was paid that the customer is provided with a tower packing individually tailored to his requirements.

The VFF-Twin-Pak® is not only offered in a generally applicable standard version, but also with a multitude of options as regards material or wall thicknesses. Whether as a featherweight or extremely strong version, whether carbon steel or special alloys – with the VFF-Twin-Pak®, the customer always receives the tower packing that is perfectly suited to his application. The VFF-Twin-Pak® is individually available from 0.2 mm to 0.6 mm or in the standard wall thicknesses.

An advantage that also pays off for all customers!



## Characteristic data of the VFF-Twin-Pak®

### Characteristic data of the VFF-Twin-Pak® for the different nominal sizes

VFF-Twin-Pak® No.	Spec. weight [ kg/m³ ]	Spec. surface [ m²/m³ ]	Free volume [ % ]
No. 1	200	200	97
No. 1,25	170	160	98
No. 1,5	150	135	98
No. 2	150	100	98
No. 3	140	80	98

All details stated refer to material 1.4301 and to the standard wall thicknesses for the respective size  
Other wall thicknesses: upon request, available materials: carbon steel, stainless steel, special alloys



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**CERT**  
ISO 9001

### Your expert for:

- **DURANIT®** inert balls
- tower packings
- column internals
- droplet separators
- software for the basic column design

Welcome to our website:  
**[www.vff.com](http://www.vff.com)**



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