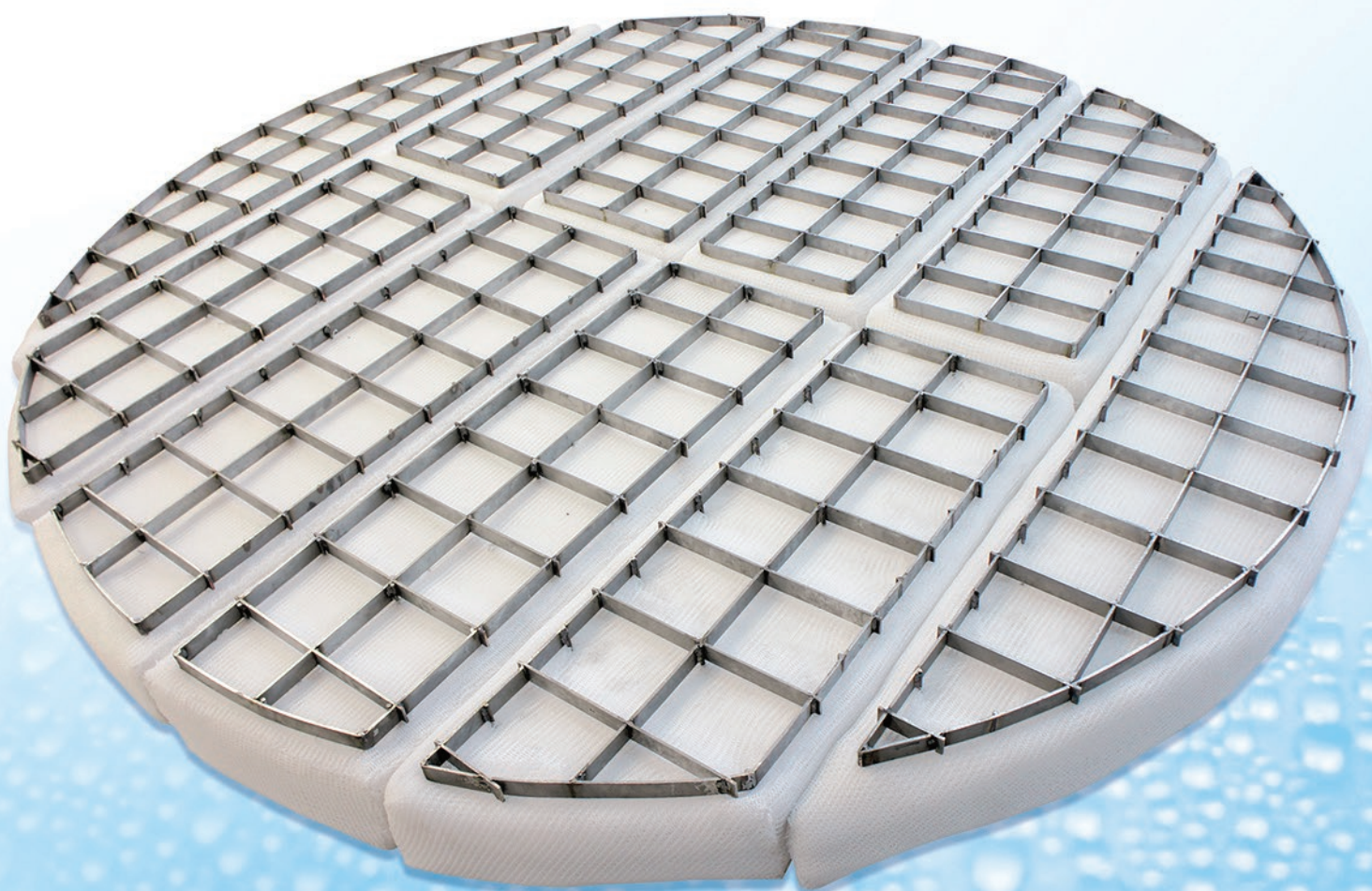




Demisters

mist separators



Demisters

mist separators

Characteristics of the INBRAS-Tarflen demister's material (PTFE)

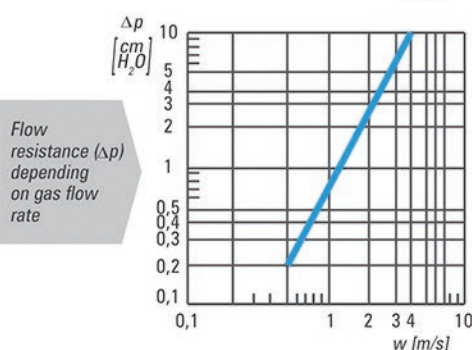
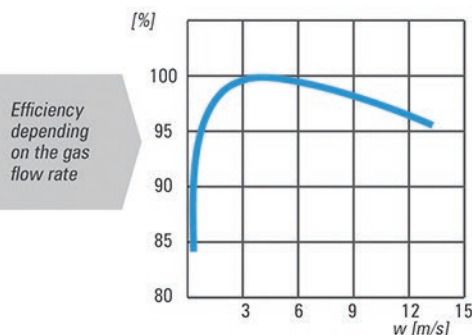
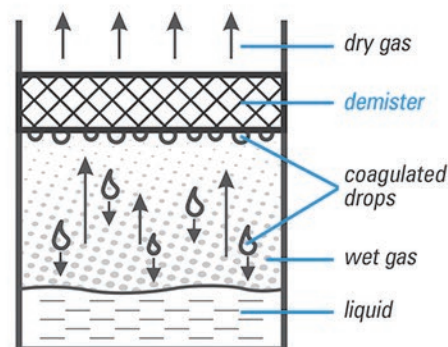
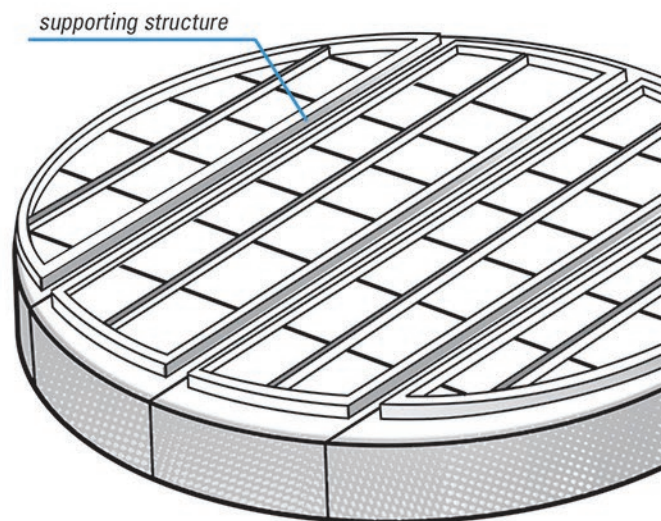
- high chemical resistance
- very good sliding properties
- low friction coefficient
- low specific gravity
- working temperature from -260°C – $+260^{\circ}\text{C}$
- anti-adhesive (non-wettable surface, non-stick)

Working principle of net mist separators

The construction element, which is the demister, causes the flowing gas to have a variable flow direction. Droplets collide with each other and with the net creating larger drops that separate from the gas phase and fall off under the influence of gravity. Tarflen's non-adhesive properties causes the drops to separate easily. Tarflen's demisters are used wherever there is a need for a highly efficient and cheap method of gas purification from liquid drops with a diameter above $2\mu\text{m}$. However, the gas should not contain any dust or sticky substances, although this problem can be solved by periodically washing the demister.

The main application is the separation of sulfuric acid droplets from gases escaping into the atmosphere after the absorption column and the drying column in sulfuric acid production plants. The use of demisters in these installations effectively eliminates even the acid mist formed in the reaction of water vapor and sulfur oxides, contributing not only to the prevention of environmental contamination, but also to the improvement of technological indicators. The same is true for nitric acid, phosphoric acid production plants etc.

Demisters (mist separators) are elements of chemical apparatus made of a net to remove drops of liquid from gases or vapors based on the accumulation of drops (coalescence). During the gas flow through the demister, smaller drops clash in the larger and fall down.



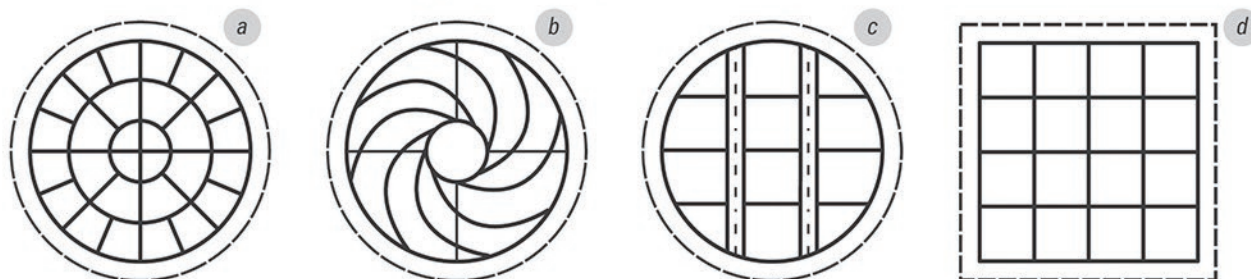
Physical properties of Tarflen demisters

Service temperature range	-260 to $+260^{\circ}\text{C}$
Flow resistance at gas velocity of 2-2,5 m/s	ca. 60mm Hg
Efficiency (at optimal gas flow conditions)	
for drops with diameter above $5\mu\text{m}$	99%
for drops with diameter 2-5 μm	up to 45%
Free volume	80-85%
Bulk density	320-440kg/m ³
Cross section of Tarflen fiber	0,4-0,6mm
High chemical resistance on acids, basics, solvents, salts (except fluorine and alloys or solutions of alkali metals eg. sodium or potassium)	

Chemical resistance of supporting structure depends on the type of material from which it was made

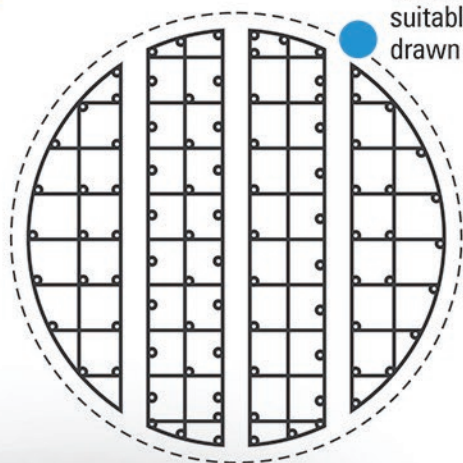
Construction of demisters

Tarflen mesh can be made as a self-contained block or it can be mounted on a steel support structure. For diameters up to 600 mm, we can not use a supporting structure, larger demisters should be reinforced with a supporting structure that provides adequate stiffness. Depending on the needs, the supporting structure can have the following shapes: *a - round, b - spiral, c - round segment, d - rectangular*.



PTFE mesh

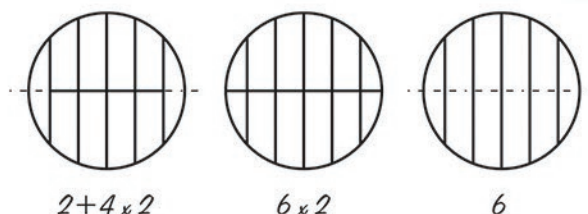
Decades of experience shows that the most suitable supporting structure is rectangular drawn in a circle.



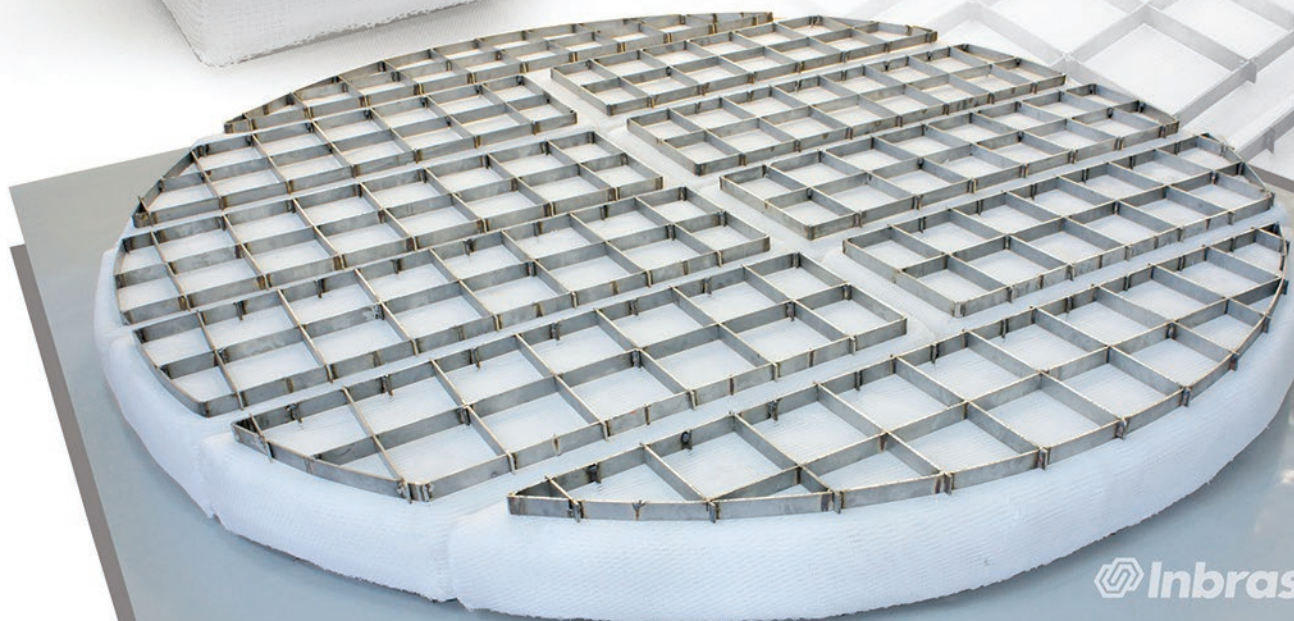
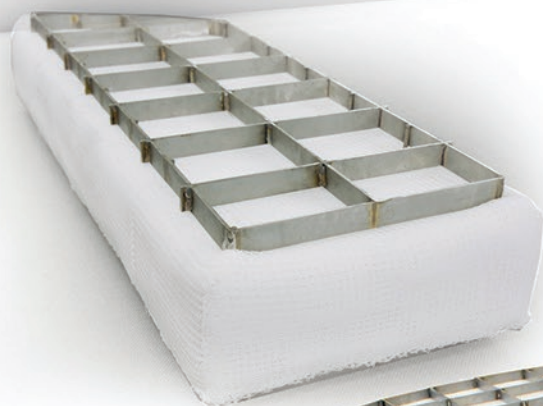
PRODUCTION RANGE OF DEMISTERS:

- min. 180x180 mm and d 450 mm
- max. d 6000 mm

Way of marking segments.



With large diameters, the supporting structure is additionally divided perpendicularly, thanks to which the longest elements have a length equal to half the diameter of the demister. Such dimensions are dictated by assembly considerations (eg the diameter of the manhole).



Demisters

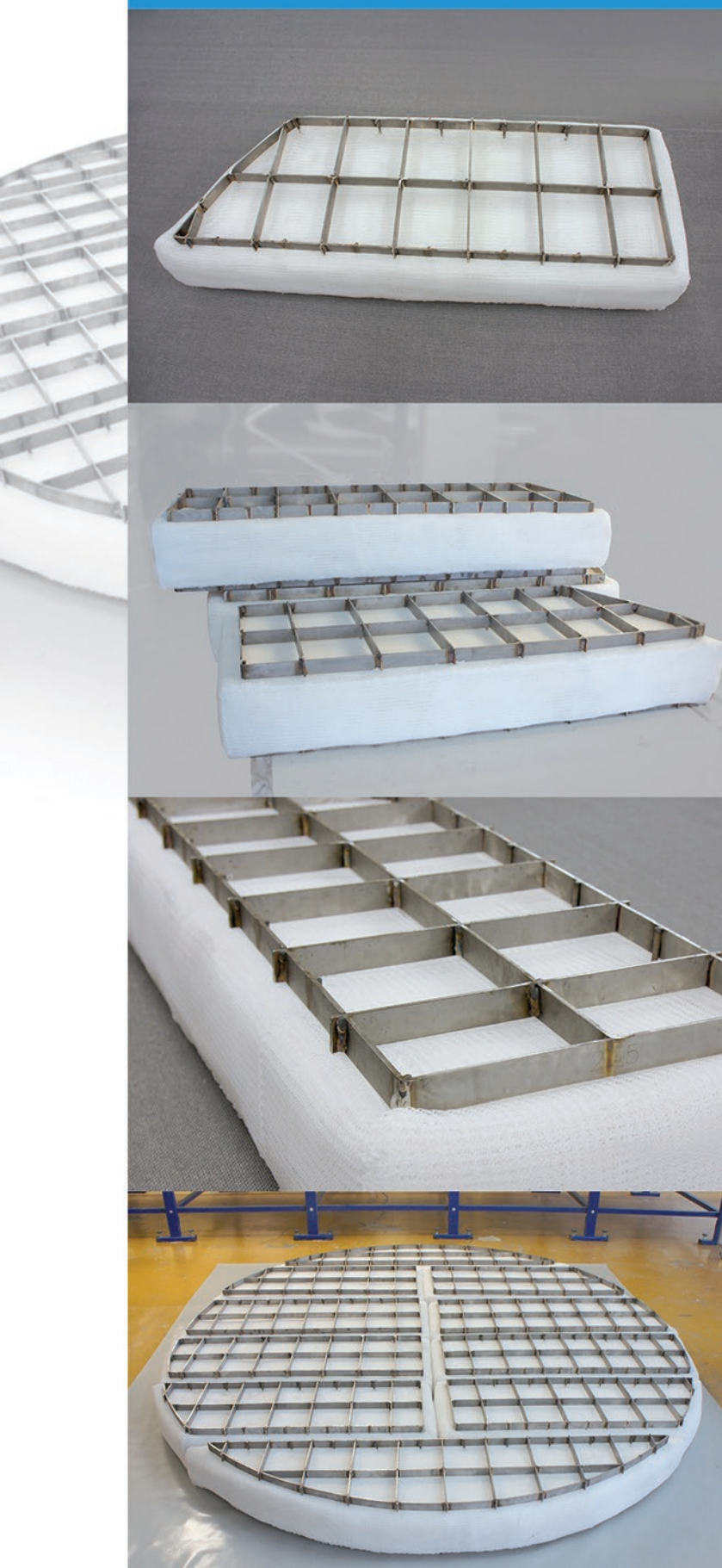
mist separators

We guarantee high quality products.

We have over thirty years of experience.

We provide assistance in the selection and design of demisters.

We control the quality of manufactured products. We have our own laboratory for testing plastics.



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