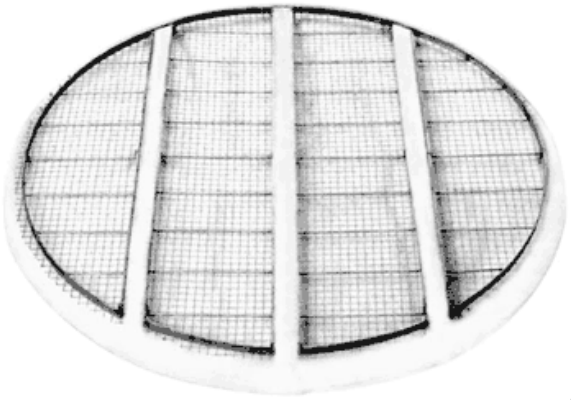
VFF also supplies numerous column internals as well as a complete range of tower packings which are designed, engineered and produced specifically for each customer by VFF. The VFF team provides full consultation in this area and has the corresponding experience and most up-to-date equipment to be able to offer tailor-made ideal solutions.

Wire mesh mist eliminators (demisters) are used to strip liquid particles from flue gases, exhaust air and steam. VFF has extensive practical experience in the design range up to 18 m diameter including the following:



- Absorbers
- Seawater desalination plants
- Washers
- Sulphuric acid plants
- Vacuum columns
- Sound absorbers, vibration dampers
- Distillation and rectification plants
- Oil separators
- Evaporators, flash vessel systems

VFF offers a variety of metallic materials and plastics as well as metal and plastic combinations to cope with the demands amongst other things of temperature and/or of corrosive conditions of the respective application.

Amongst its services VFF offers full support when choosing the material for the respective application and carries out design calculations for optimum operation and optimum separation efficiency taking into account all significant influences.

Function

In the separation process, the droplets flow through the wire mesh and collide with the surface of the wire due to their inertia. The collected droplets coalescence at the cross points in the mesh and fall back as larger droplets into the vessel. The separation efficiency, which is influenced e. g. by the voids and the specific wire mesh surface area, improves with increasing flow velocity. The maximum flow velocity must not be exceeded, however since flooding will cause re-entrainment to occur.

The maximum droplet diameter for 99.9% fraction separation efficiency is within a range of 5 µm to 12 µm for standard mesh types. Specialised technical designs enable sizes in this kind of separation process to be reduced to 3 µm.

The wire mesh droplet eliminators (demisters) are made of fine wires with different mesh widths whereby the wire diameter generally ranges between 0.1 mm and 0.5 mm. The specific surfaces, depending on the type, are between around 150 m2/m3 to around 1100 m2/m3.

Specially designed supports and/or cover grids are generally supplied to support the mesh pads, which are arranged so that the free inflow area is approximately 90 %. When installing the wire mesh, the mesh pad must fit tightly to the wall of the column to prevent any gas leaking through.

The pad of the wire mesh droplet separators (demisters) is between 100 and 150 mm deep in most applications. If the gas- or steamflow contains very fine droplets, e.g. as created during condensation, considerably deeper pads or multiple layers are required.