Figure 6. Vertical BlueFil mesh for a horizontal flow vessel.

- The general rigidity of each layer – permitting high pressure washing without damage to the filaments and meshes.
- The increased thickness of both the mesh and the filaments compared to other media – optimising pressure loss and resistance to blockage.
- The widest range of mesh sizes – allowing even the most stringent emission limit to be achieved without excessive material usage.

Phosphate fertilizer plants have other mist elimination challenges combining P_2O_5 acid filtration with gas scrubbing in very dirty conditions, for example in MAP/DAP granulation and drying sections.

Where footprint is a problem these fume scrubbers can be designed with a vertical vessel and horizontal scrubbing and demister stages. Mostly they are made as 'cross-flow' horizontal systems permitting the packing stage and demister stage media to be installed and removed via roof doors in individual cassettes. It is critical that the media installed inside these cassettes is properly sealed against the sides and top and bottom, to prevent gas by-pass. It is an ongoing problem to get better efficiency from these systems, while not increasing maintenance and pressure loss as a result. However, in a major DAP producer's FSA scrubber, where the frequency of washing of the traditional media has led to by-pass issues, the mesh has been successfully trialled and proved much more resistant to deposition and blockage. WF