



## Application Solution

BETE'S CLOG-RESISTANT  
MAXIPASS® ENSURES UNIFORM  
DISTRIBUTION OVER PACKING  
CHEMICAL PROCESSING INDUSTRY



# AREA DISTRIBUTION SOLUTION

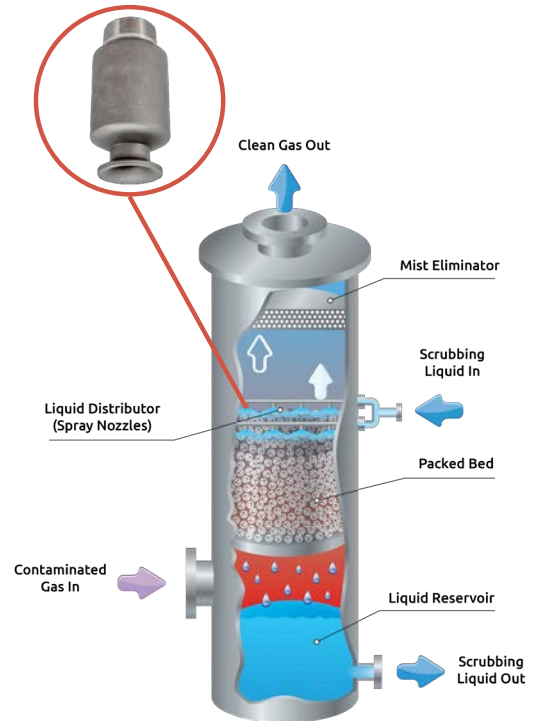
### ► PROBLEM: SPRAYING VISCOUS SCRUBBING FLUIDS OVER PACKING MATERIAL

A chemical processing company sought BETE's guidance in selecting several nozzles to distribute scrubbing fluids onto packing in their distillation towers. This distribution increases the available surface area for evaporation (distillation). The viscosity of their pumped fluid was relatively high, ranging from 40 to 120 cP, depending on the case. The operating pressures were generally around 20 psi (1.4 bar), and the flows ranged from 10.0 to 400 gpm (37.9 to 1514 l/min).

### ► SOLUTION: MAXIPASS® FULL CONE NOZZLE

BETE engineers selected the MaxiPass full cone nozzle for the chemical plant's various applications because of its large free passage, which is less affected by high-viscosity fluids. Unlike conventional full cone nozzles with a free passage as low as 60% of the orifice size, the MaxiPass has a free passage of up to 80%-90% of the orifice diameter. The large free passage minimizes the pressure increase required to compensate for the fluid's high viscosity. To further reduce difficulties with high viscosity, a single larger nozzle is recommended instead of a group of small nozzles.

MaxiPass full cone spray nozzles can uniformly distribute scrubbing fluids over packed beds, ensuring even run-down through the packing and preventing any gas bypass through the scrubber.



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