BETE®

Custom Solutions Bulletin

Industry: Plastics Processing
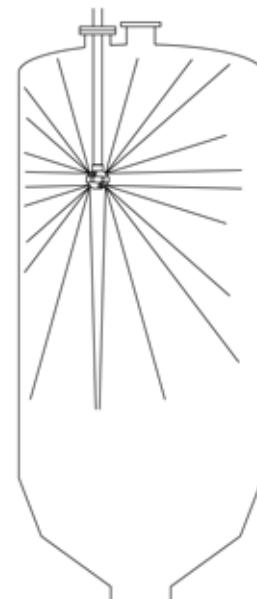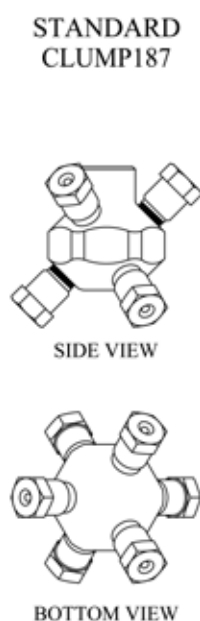
Application: Tank Cleaning

Product Descriptions: CLUMP with recessed nozzles

Situation: A global chemical company contacted BETE seeking nozzles to wash down the inside of several vertical storage silos containing plastic pellets. The multiple silos were of different diameters and heights. The tank connections on the heads were arranged such that the wash nozzles could not be placed in the center. Coverage of the tank walls was important, but they were especially concerned with complete coverage of the underside of the top head. All pellets needed to be removed from the interior surfaces to eliminate cross-batch contamination.

BETE's solution: BETE Application Engineers discussed solutions to the situation using standard product offerings including the CLUMP, LEM and TW nozzles as well as the self-rotating RTW and ScrubMate™. The CLUMP, with its 100% spherical coverage and large free passage, provided the best solution. However, there was concern on the part of the customer about the projection of the nozzles from the manifold and their propensity to attract the plastic pellets and the potential for plastic strings to become wound around them. Drawing on the experience of the BETE Design Team, the Application Engineer suggested a CLUMP nozzle with the individual nozzle bodies recessed inside the manifold. The manifold itself would be larger, but the necessary opening in the silo would not increase. By welding the nozzles in place, the tips would be flush with the manifold surface, leaving nothing protruding from the body. This suggestion was accepted and BETE worked with the customer to specify the correct capacity nozzles to properly clean the vessel and meet the cleaning media supply requirements. BETE engineers also performed trajectory analysis of the spray pattern to locate the correct mounting height of the nozzles in each tank.

STANDARD CLUMP187
SIDE VIEW
BOTTOM VIEW

CUSTOM CLUMP187
SIDE VIEW
BOTTOM VIEW

App#050492