Custom Solutions Bulletin

Industry: Petroleum Processing

Application: HF Alkylation

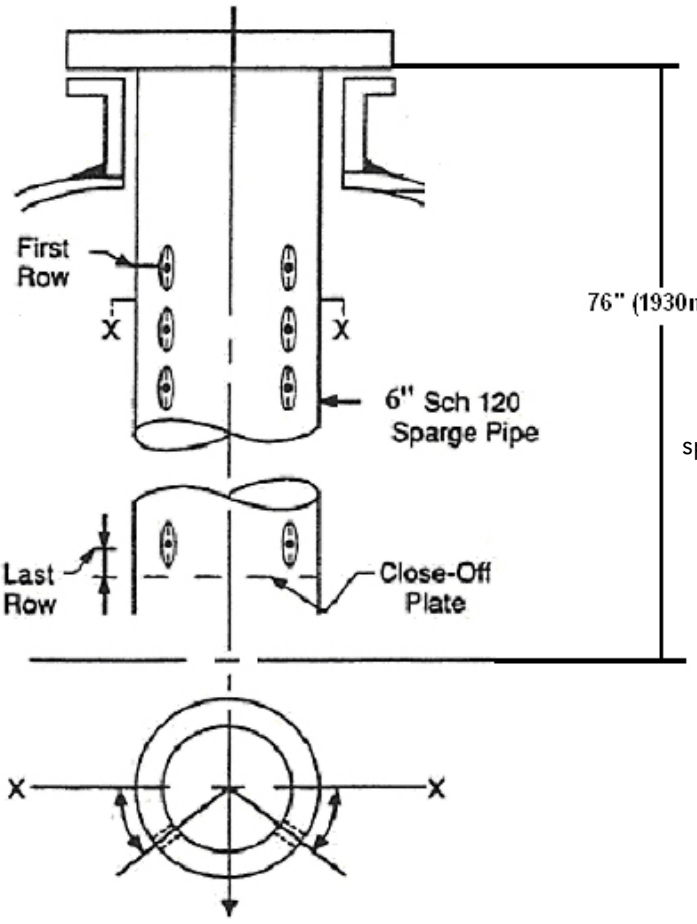
Product Descriptions: Nozzle Tubes

Technical Questions?

Please contact:
Applications Engineering
(appeng@bete.com)
413-772-0846
App#090870

Situation: In the refining process, olefins are combined with isostripper or isobutene, also known as hydrocarbons, and converted to useable fuels. These hydrocarbons need to be evenly distributed in a reactor filled with hydrofluoric acid (HF). The HF acts as a catalyst converting the hydrocarbons into fuel without being spent. After the reaction occurs, the converted fuel and HF acid are transferred to a settling tank where the HF is separated from the fuel. Both the fuel and HF are sent to a second reactor where the process repeats. A typical reactor could have 6 nozzle tubes.

BETE's solution: The specifications for the nozzle tube require that it is one piece with no extrusions on the surface of the tube. The example below has 136 nozzle orifices machined into it. BETE is able to machine nozzles into the tubes surface without the need to weld slugs to the tube. This is possible because of BETE's advanced machining capabilities. BETE is the mandatory supplier of nozzle tubes for certain process licensers



BETE nozzle tube specified for HF process.

App#090870