

# Sanitary Welding Vertical Integration



## Team D:

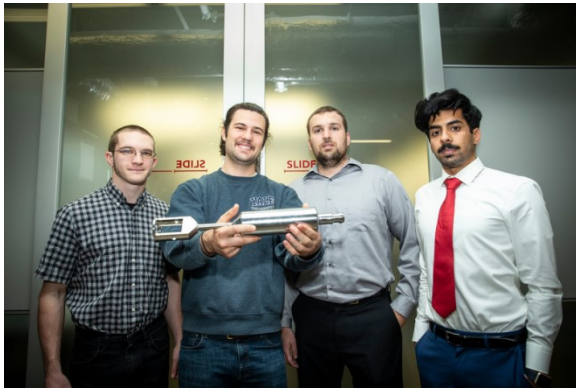
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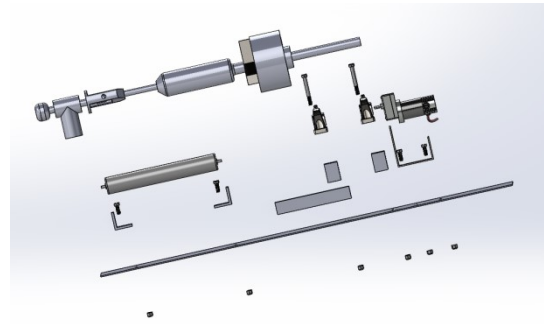


## Project Summary:

The team was tasked with researching the processes involved with sanitary stainless steel welding, and determining the feasibility of vertically integrating them into Graco's Minneapolis facility. We've made Graco a detailed plan for this integration, including step by step instructions for welding and polishing stainless steel in a sanitary fashion. To attain sanitary quality, welds must be ground and polished to a surface roughness of 32 microns or less, known as a #4 finish.

## Design Goal:

To help us estimate the time it would take to satisfactorily weld and polish round parts, we've designed and prototyped a welding fixture to hold and turn one of Graco's parts while it's being welded and ground to a #4 finish.



## Design Constraints:

- The fixture must enable easy clamping and unloading.
- The table should be safe (round all corners), easy to clean, adjustable and light enough to relocate.
- The fixture must be able to be operated by one person.
- The fixture must be able to handle the heat that comes from Tungsten Inert Gas (TIG) welding.
- Fixture must cost less than \$3000 to build