

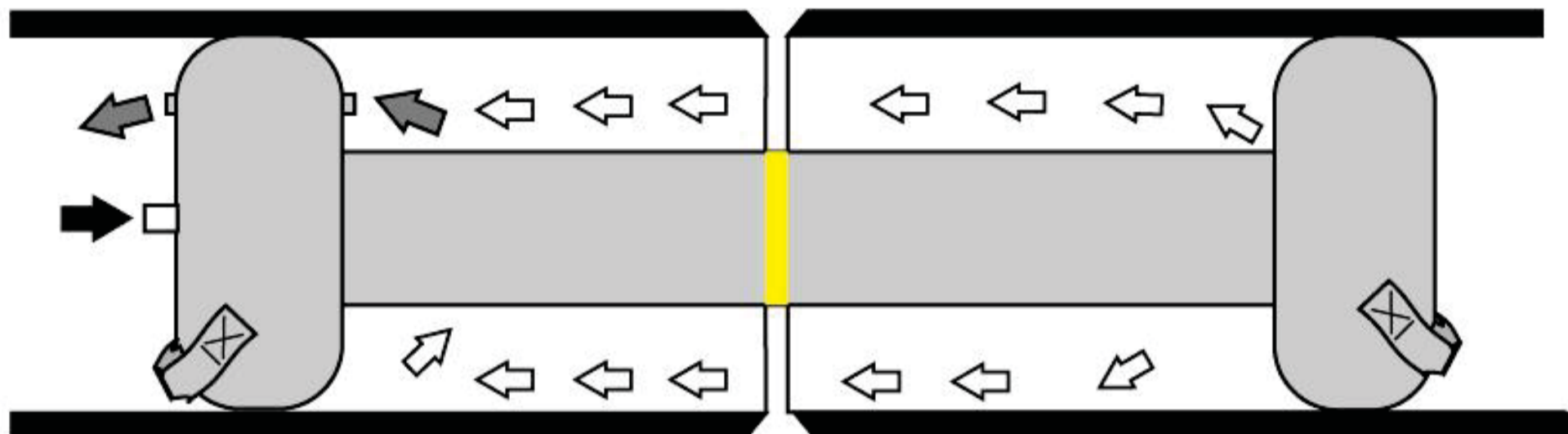
BACKING GAS SYSTEM FOR STAINLESS STEEL TUBE WELDING



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OBJETIVES

- Usable for different tube diameters
- Visual revision of the welding bead through internal cameras
- Persistent gas flow during welding verified by Oxygen sensor
- Safe and fire resistant product
- Easy to handle and insert into the steel tubes



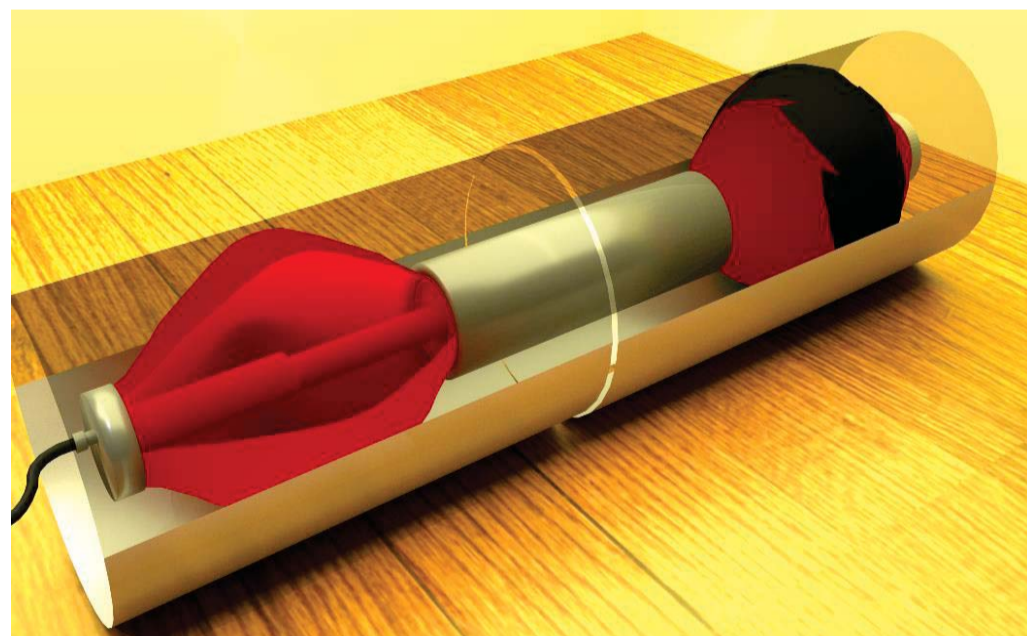
METHODOLOGY

1. Background Research on TIG Welding and Back Purging
2. Inflation System Design
3. Welding Experiment
4. Electronic and Pneumatic Design
5. 3D Design

Bad, Porous Weld

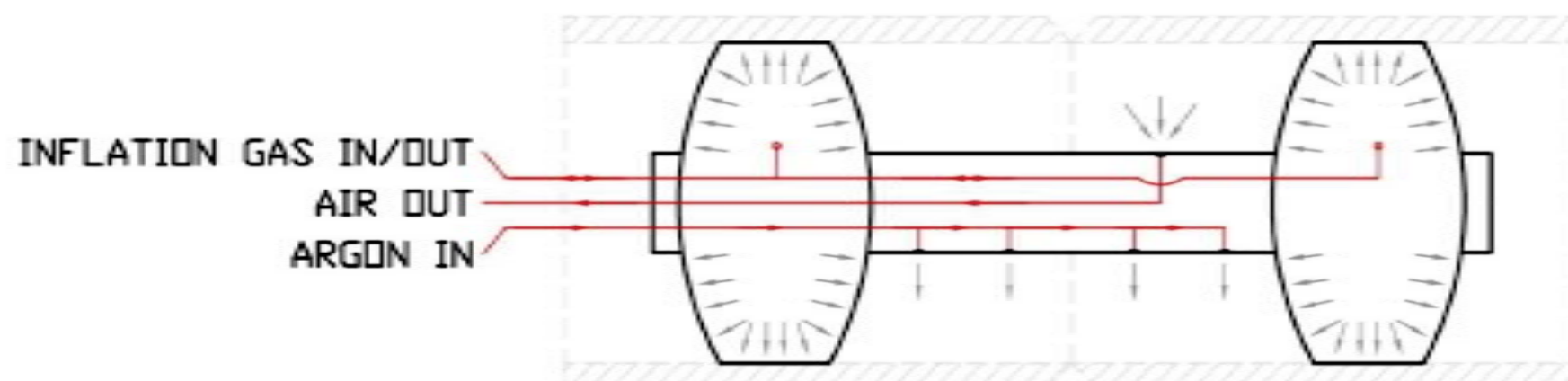


Good, Flawless Weld



RESULTS

- Novel Expansion System
- Able To Withstand High Temperatures
- Ensures Optimun Oxigen Concentration Levels during Welding



CONCLUSION

The final product provides the proper enviroment for stainless steel welding. It conveniently adapts to different diameters while working efficiently.