

Team Members: Corbin King, Nick Serauskis, Zach Truex
Mentors: Darrell Campbell

Customer Background

Increasing productivity and cost savings within a company allows its customers to receive an improved product, which can in turn improve their own fiscal productivity.



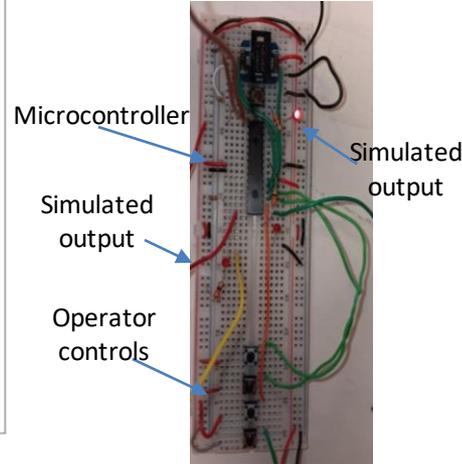
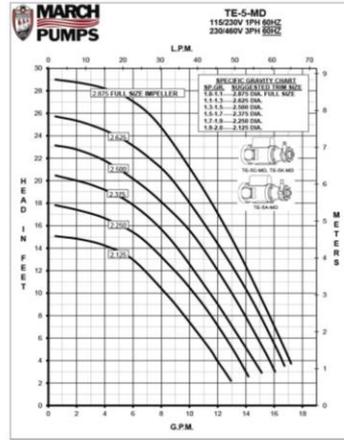
Problem Statement

The salt spray test exposes the highly specialized fixtures to corrosion, leading to imminent failure and leaving the company spending capital and waiting extended lead times. The goal of the project is to circumvent these issues by implementing new methods of galvanic corrosion prevention.

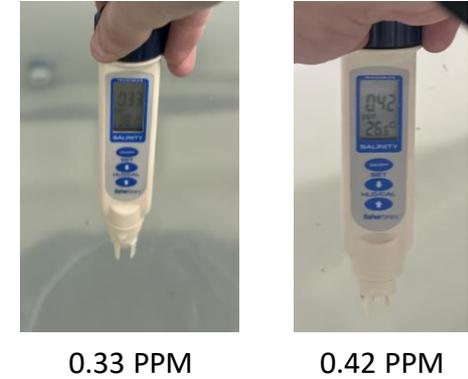
Requirements

Req. #	DESIGN REQUIREMENTS	DESIGN TARGETS	VALIDATION
	RATIONAL		
1	Functional Prototype Residual salt on the fixtures accelerates corrosion.	Salt Removal: 90% - 100%	Refractometer
2	Capable of accommodating the company's largest fixture Sizing plays a key role in the portability of the project.	2ft x 2ft x 1.5 ft	Measurement of Cleaning Chamber
3	Mobile Allows for the cleaning station to move with the	4 Caster Wheels	Testing Degrees of Movement
4	Waterproofing Protects electrical components from water damage	IEC 60529: IP 01	Pouring Water onto Turnstile
	Ease of Access for Maintenance Purposes Being able to repair the product will ensure that it sees long-term use.	Majority of components accessible from external positions	Component is unobstructed from one or more sides

Experimentation and Concepts



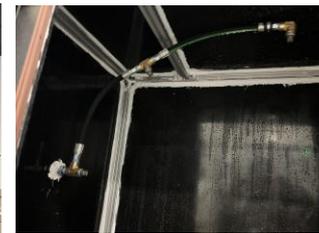
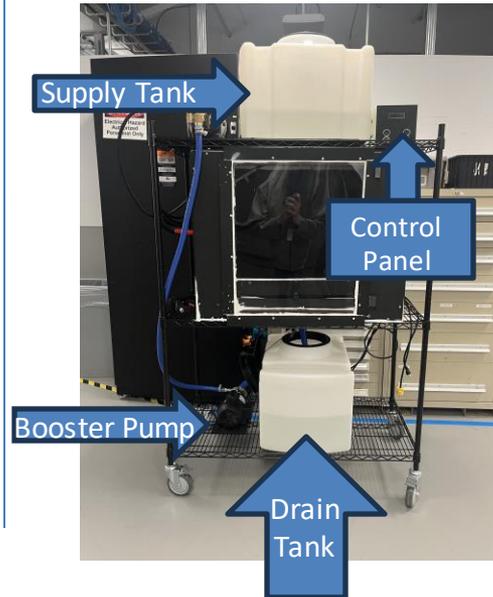
Testing



0.33 PPM

0.42 PPM

Final Design



Angled Nozzles

Mechanical Turntable



Water Proofing

