INTEGRATED ENGINEERING TEAM PROJECT(IETP4115)

Group 6

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Project Concept:

The concept of the PVC pipe water pump project revolves around creating a functional and cost-effective water pumping solution using only PVC pipes. The primary idea is to leverage the inherent properties of PVC materials to design a simple yet efficient pump that can be easily assembled, maintained, and deployed in various settings, especially in areas with limited access to electricity and financial resources.

SDG mapping:

SDG 6: Clean Water and Sanitation:

The project directly contributes to this goal by providing a solution for water pumping, which is essential for ensuring access to water.

Problem to be Addressed:

The PVC pipe water pump project addresses the need for a simple, cost-effective, and sustainable solution for small-scale water pumping applications. It is designed to provide a practical response to challenges such as limited access to electricity, especially in remote or resource-constrained areas. By utilizing PVC pipes exclusively, the project aims to offer an easily replicable and affordable water pumping system that can be assembled with readily available materials.

Objectives:

- Enhance Equitable Water Access for Underserved Communities
- Promote Adoption of Environmentally Sustainable Water Solutions

Short summary of the Project:

The integrated engineering team successfully collaborated to design and construct a compact water pump using only PVC pipes. The project aimed to create an efficient and cost-effective solution for small-scale water pumping applications. The team leveraged their diverse expertise to address the challenges associated with designing a pump exclusively from PVC materials.

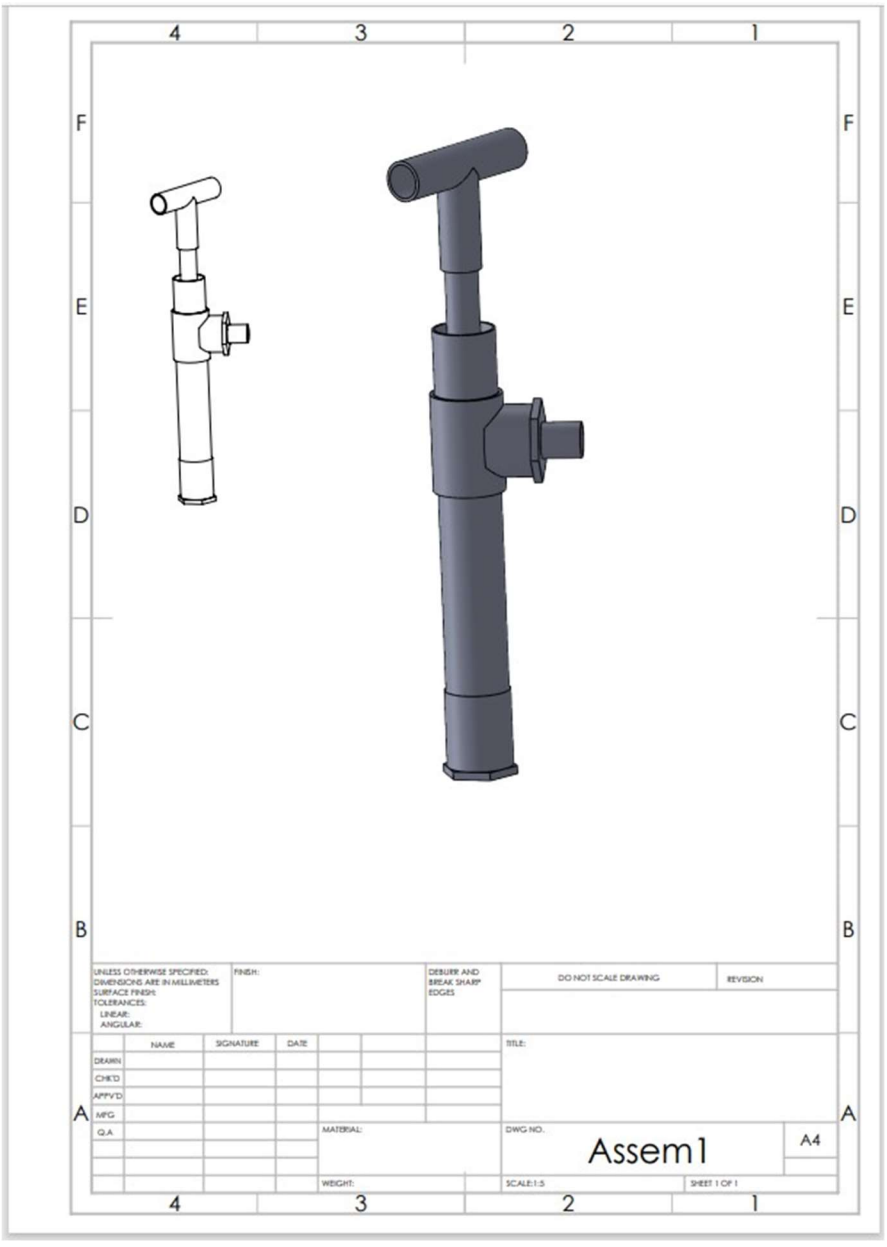
The pump design incorporates a simple yet effective mechanism, utilizing the inherent properties of PVC pipes to facilitate fluid movement. The team focused on optimizing the pump's performance by carefully selecting pipe diameters, lengths, and connections to achieve the desired flow rate and pressure.

This project not only exemplifies the successful integration of various engineering disciplines but also highlights the team's ability to devise practical solutions for water pumping in resource-constrained environments. The collaborative effort resulted in a cost-effective, scalable, and sustainable PVC pipe water pump that can find applications in agriculture, emergency relief, and other contexts where a compact and efficient water pumping solution is required.

Materials, tools, equipment/instruments required:

- 1.5 inch pipe
- 1.5 inch plug
- 3 quarter inch pipe
- Plug for the 3 quarter inch pipe
- T splitter for 3 quarter inch pipe
- T splitter for the 1.5 inch pipe
- Coupler
- A set of nuts, bolt and washer
- Plug for 1 inch pvc pipe
- Reducer

Model: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