



Emergency Flying Medicine Refrigerator

# EMERGENCY FLYING MEDICINE REFRIGERATOR



## Introduction

Welcome to the future of emergency medical logistics with our groundbreaking Emergency Flying Medicine Refrigerator Drone! Equipped with a cutting-edge hexacopter design, this drone employs the Peltier effect for state-of-the-art cooling, ensuring medications stay at critical temperatures during transit. Fully autonomous, it navigates without human intervention, slicing through the skies at unprecedented speeds and efficiency. Say goodbye to traditional delivery constraints and embrace our drone technology that delivers life-saving treatments faster and more reliably than ever before. Experience the next level of healthcare innovation today!

## Problem Statement

Traditional methods for delivering temperature-sensitive medical supplies often fail due to traffic, logistical complexities, and infrastructure challenges. These delays can be critical in emergency situations, particularly in remote areas. Our project introduces an autonomous hexacopter drone equipped with Peltier cooling technology to ensure rapid, reliable delivery of essential medications, overcoming the limitations of ground-based transportation.

## Objective

To develop an autonomous hexacopter drone that utilizes Peltier cooling technology to deliver temperature-sensitive medical supplies quickly and efficiently, reducing dependency on traditional delivery methods and enhancing emergency response capabilities.

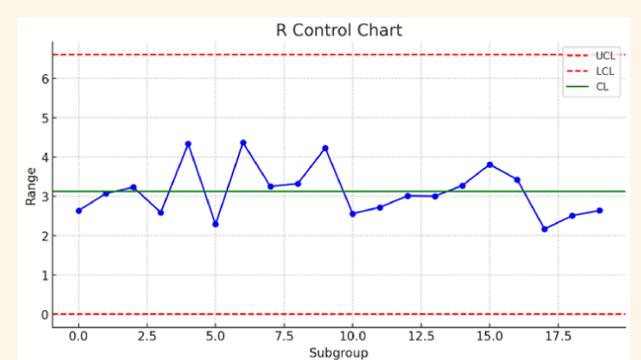
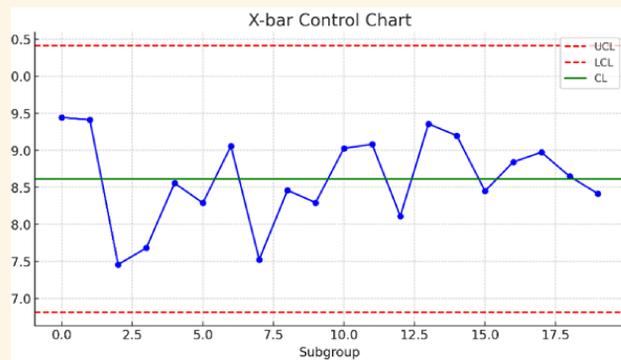
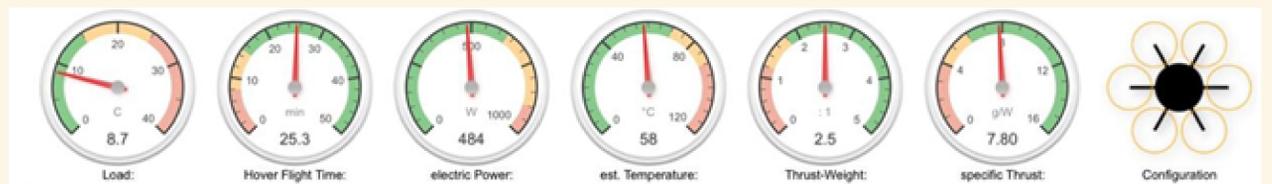
## Specifications

|   |  |
|---|--|
| <p><b>TIME</b></p> <p>Hover flight time from the simulation equals 25 minutes</p>           | <p><b>TEMPERATURE</b></p> <p>For the cooling system the temperature measured in experiment is 20C</p>      |
| <p><b>SPEED</b></p> <p>Maximum speed can be achieved equals 67 km/h by the drone system</p> | <p><b>CAPACITY</b></p> <p>The battery systems is offering the option to choose from 16000 or 32000 mAh</p> |

## Prototype Design



## Testing / Validtion



## Constraints

|   |   |  |  |
|---|---|--|--|
| <p><b>COST</b></p> <p>Should not exceed the allocated budget to ensure project feasibility and sustainability</p> | <p><b>DISTANCE</b></p> <p>Covering a maximum operational range of 5 kilometers on a single charge, ensuring it can deliver medical supplies effectively</p> | <p><b>PAYLOAD WEIGHT</b></p> <p>The drone is designed to carry a maximum payload of 5 kilograms.</p> | <p><b>HOVER TIME</b></p> <p>Maintain a minimum hover time of 30 minutes to accommodate varying delivery conditions</p> |
|---|---|--|--|

## Conclusion

The Emergency Flying Medicine Refrigerator Drone enhances emergency medical deliveries with its autonomous operation and advanced cooling technology. This project showcases significant improvements over traditional methods, ensuring rapid, reliable transportation of critical supplies. Its success paves the way for broader applications in drone-delivered healthcare solutions.

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