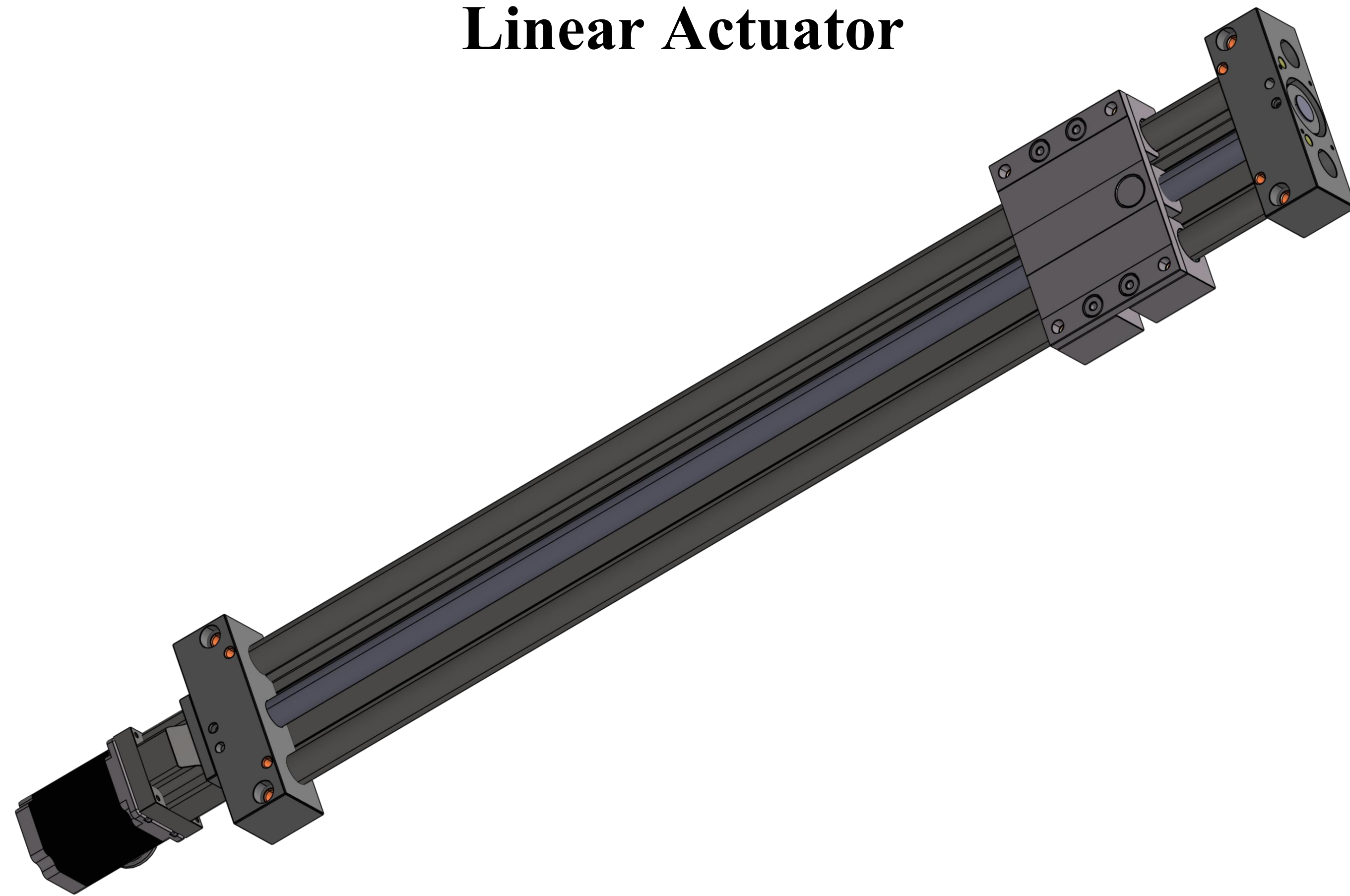
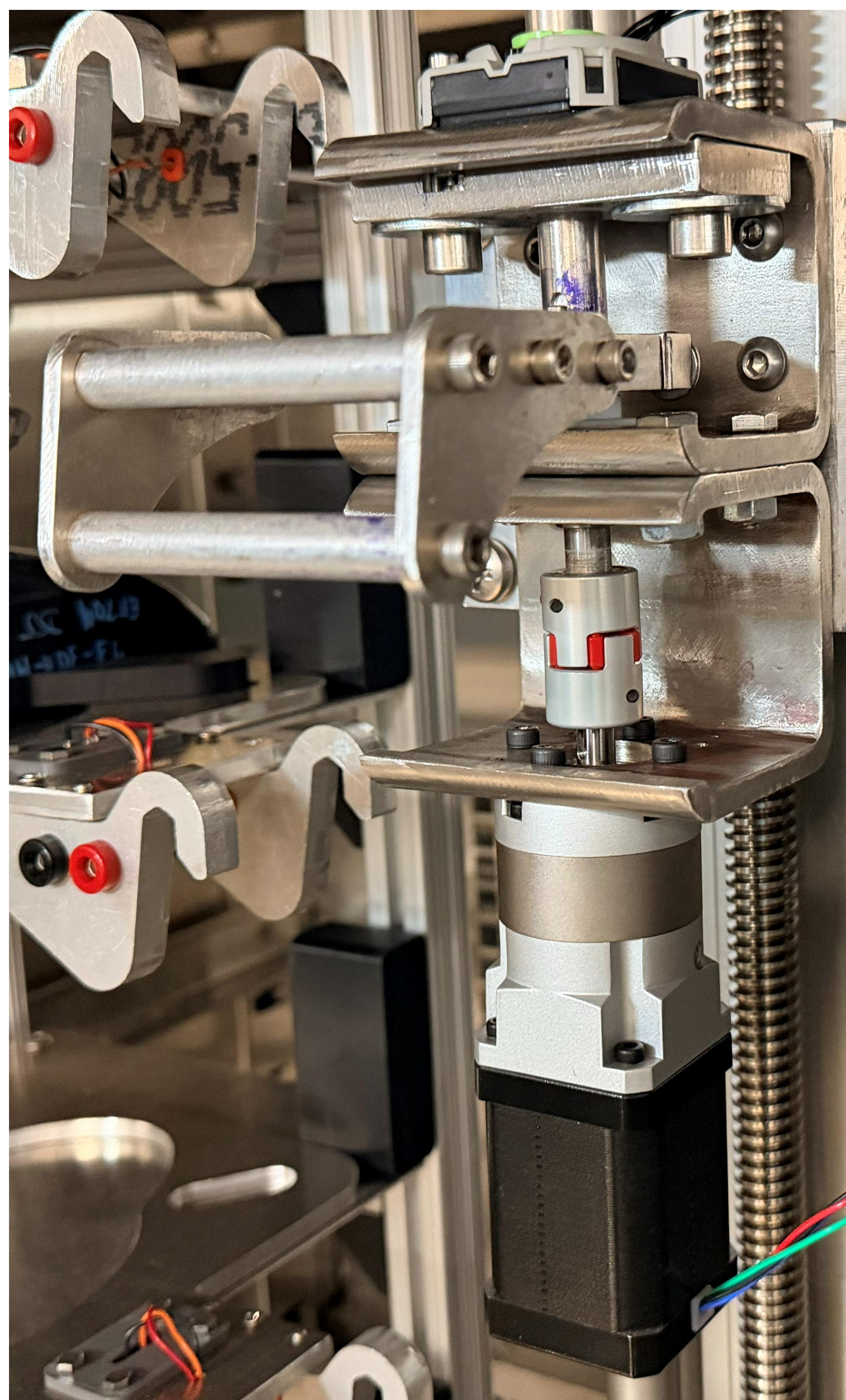


Linear Actuator



Rotating Arm



Problem Statement

Manual testing of auto-dimming mirrors across a -40°C to $+80^{\circ}\text{C}$ range requires constant technician presence. Full testing sequences can span days where the operator is mostly idle but must be present.

Objective

Design an automated handler to autonomously load, electrically connect, and evaluate batches of 6+ samples, improving overall laboratory efficiency and eliminating operator-dependent variability.

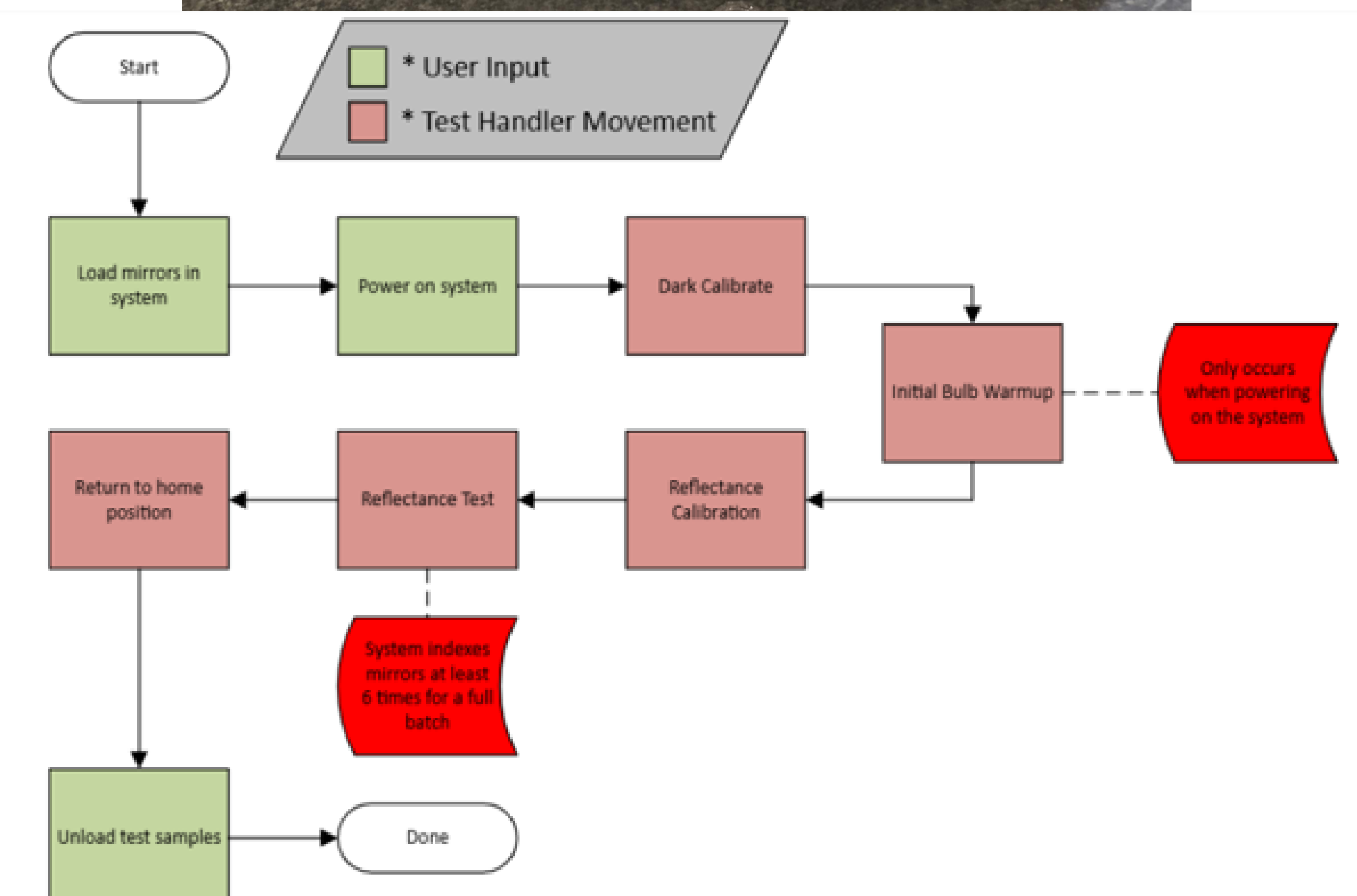
Key Requirements

- Operate between -40°C and 80°C .
- Batch size >6 samples.
- Electrification capable of 1.25Vdc & 12Vdc.
- Fit within the Thermotron chamber.

Notable Challenges

- Efficient utilization of chamber volume for maximum test sample batch size.
- Ensure material CTE compatibility.
- Component compatibility with thermal chamber temperatures.

System Controls



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