

LA-ICP-MS Throughput Simulation Report

Generated: 2025-05-28 17:17:56

Experiment Parameters:

Scan Length (mm): 10.0

Step Size (mm): 0.005

Array Height (mm): 5.0

Number of Lines: 1001

Index Time (s): 0.02

Settle Time (Linear, s): 0.1

Settle Time (Stepper, s): 0.05

Comms Overhead (s): 0.05

Canonical Max Velocity (Linear, mm/s): 100

Canonical Max Velocity (Stepper, mm/s): 50

Canonical Acceleration (Linear, mm/s²): 2000

Canonical Acceleration (Stepper, mm/s²): 8000

Velocity Sweep Range (mm/s): 10.0 to 400.0

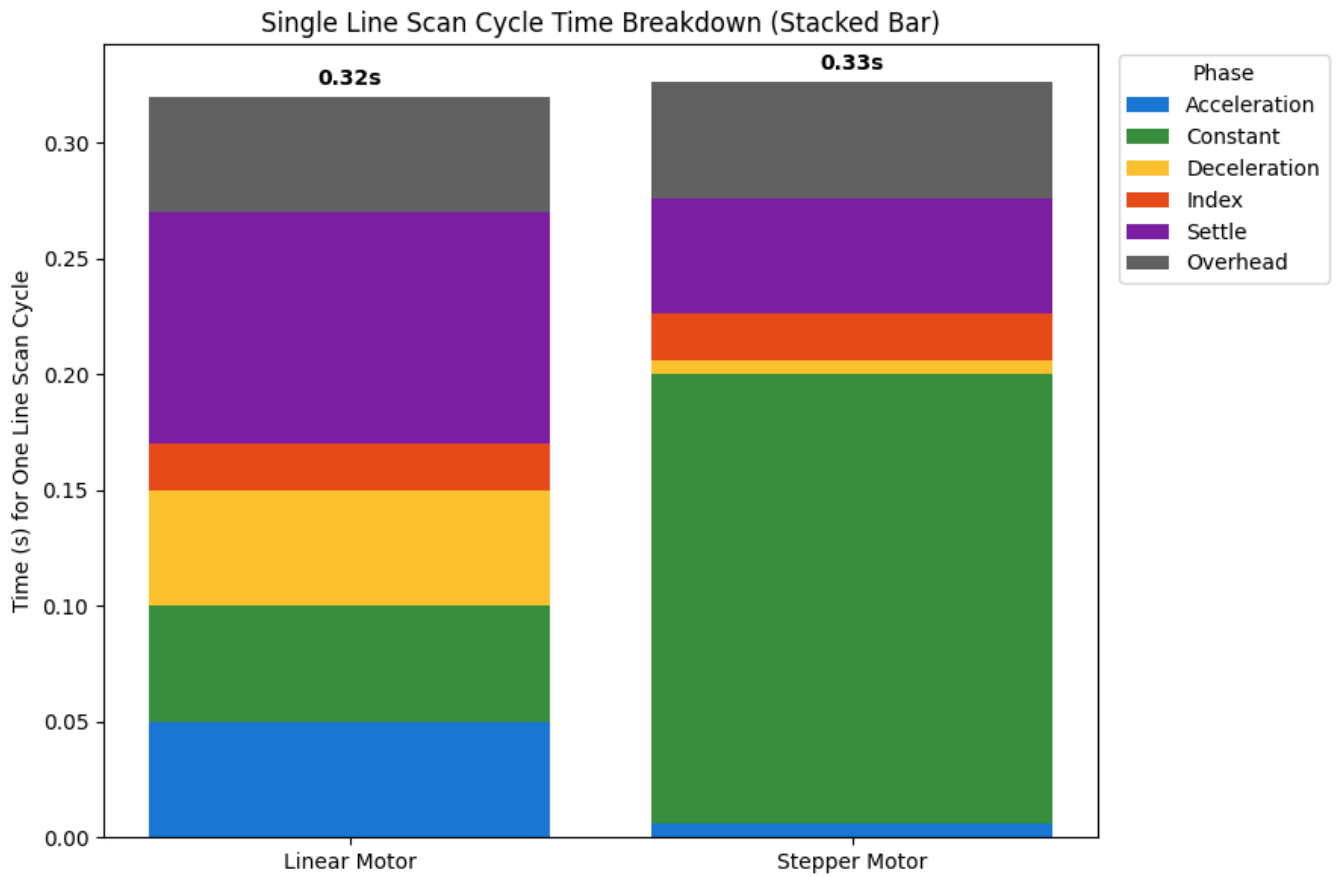
Acceleration Sweep Range (mm/s²): 500.0 to 12000.0

Vendor Table Source: C:\Users\lsummerfield\Documents\ESL Data Analytics\20250522_ALON throughput sim\data

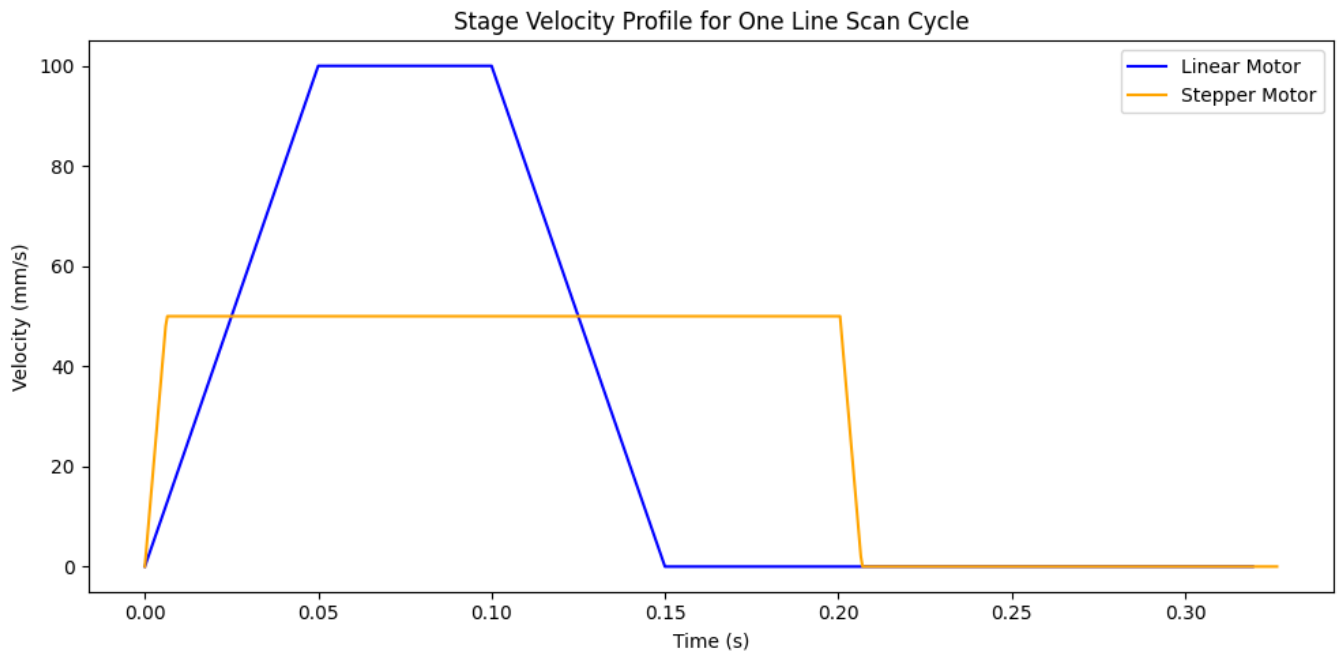
Experiment Notes:

Automated throughput simulation batch for TV3 parameter testing.

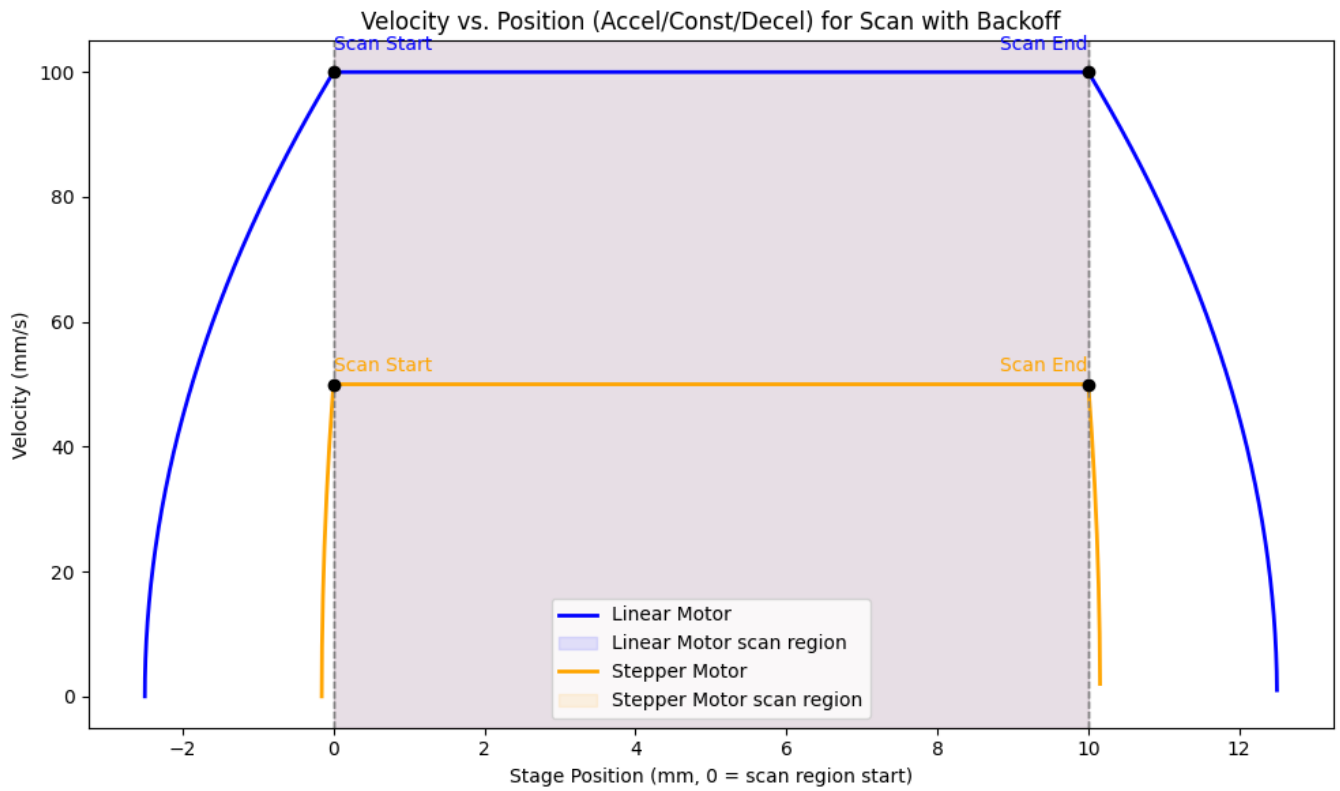
Single cycle time breakdown stacked bar



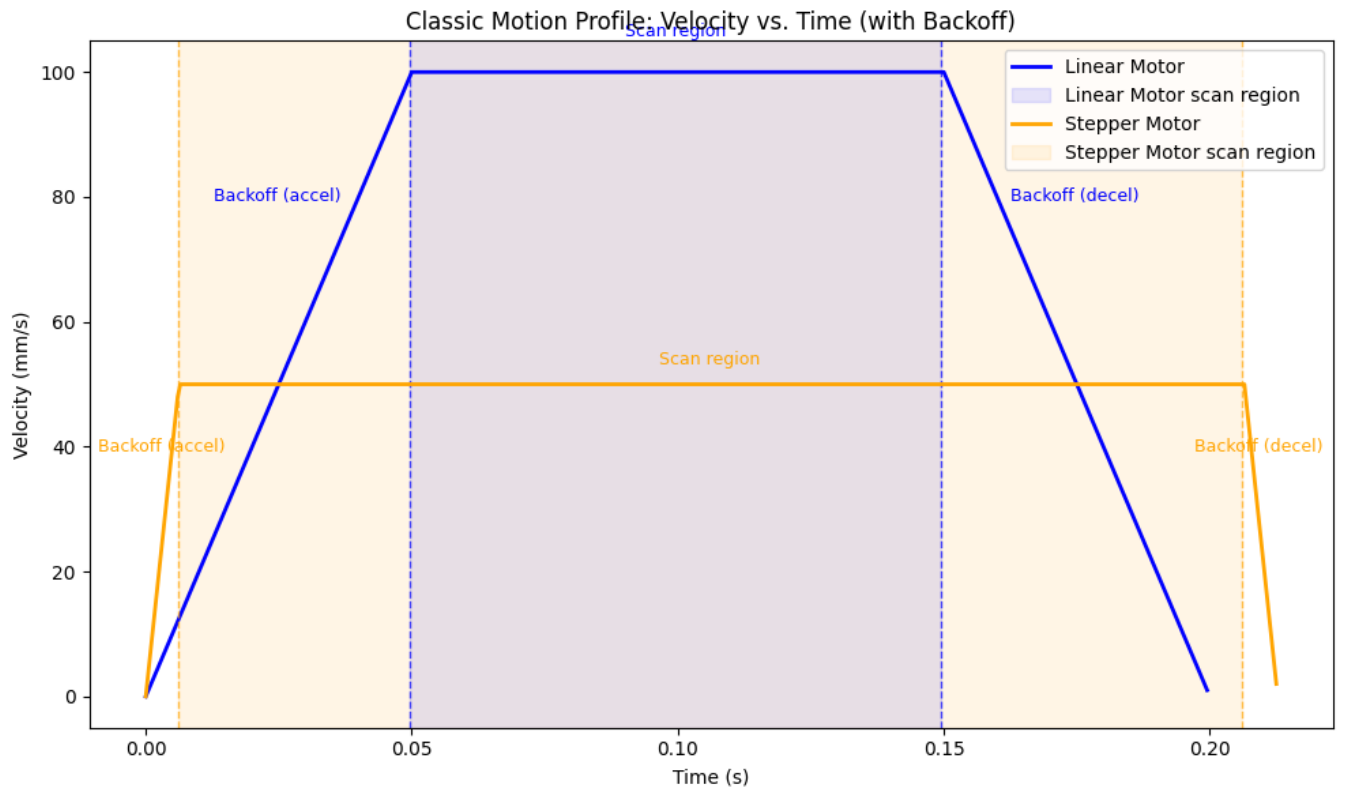
Velocity single cycle



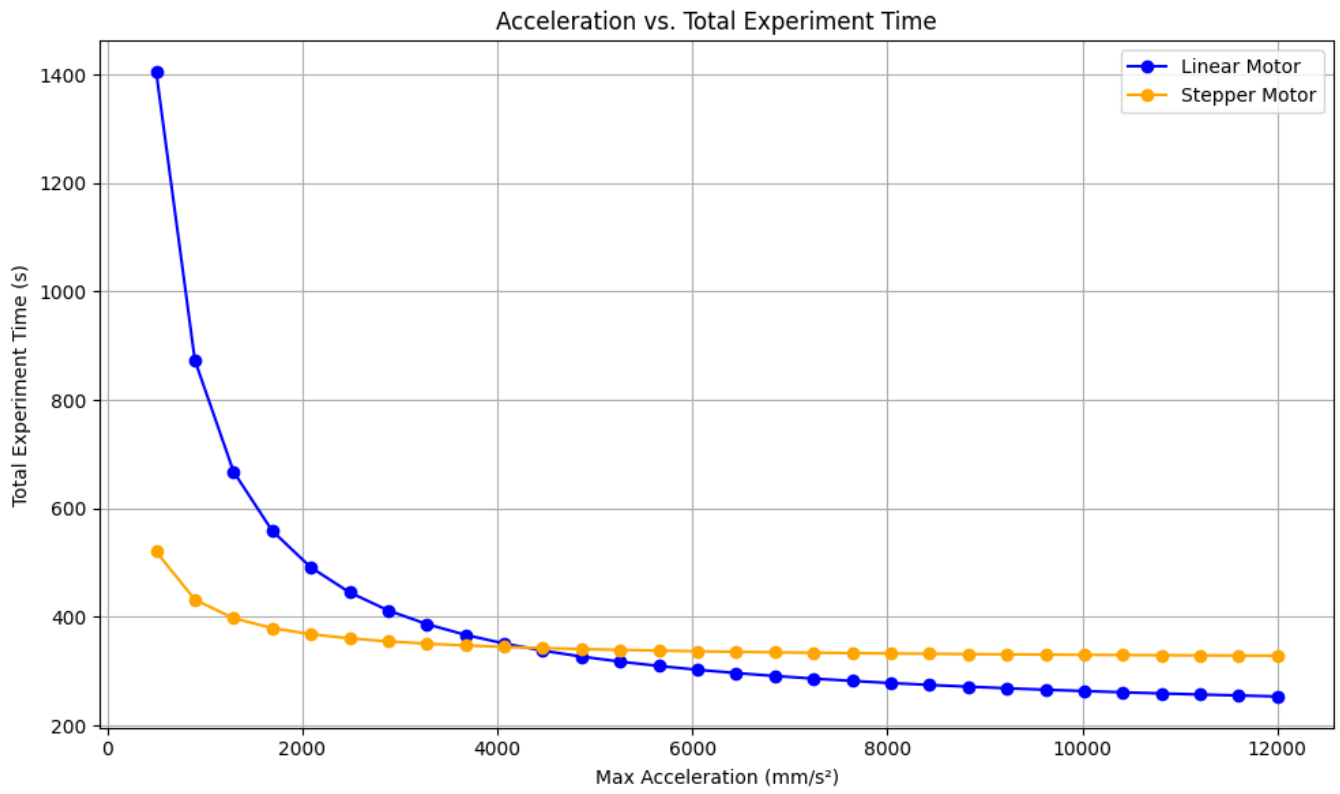
Velocity vs position with backoff



Velocity vs time with backoff

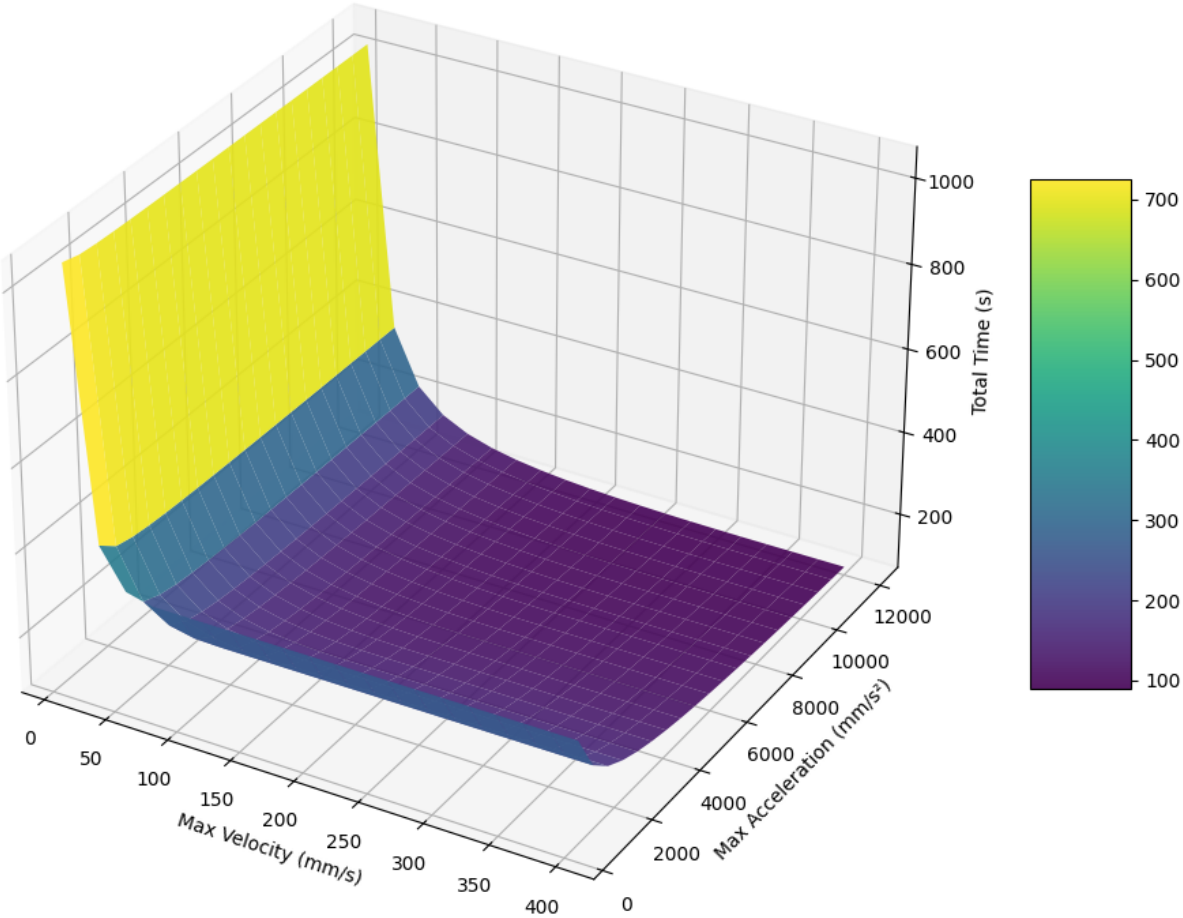


Acceleration vs time



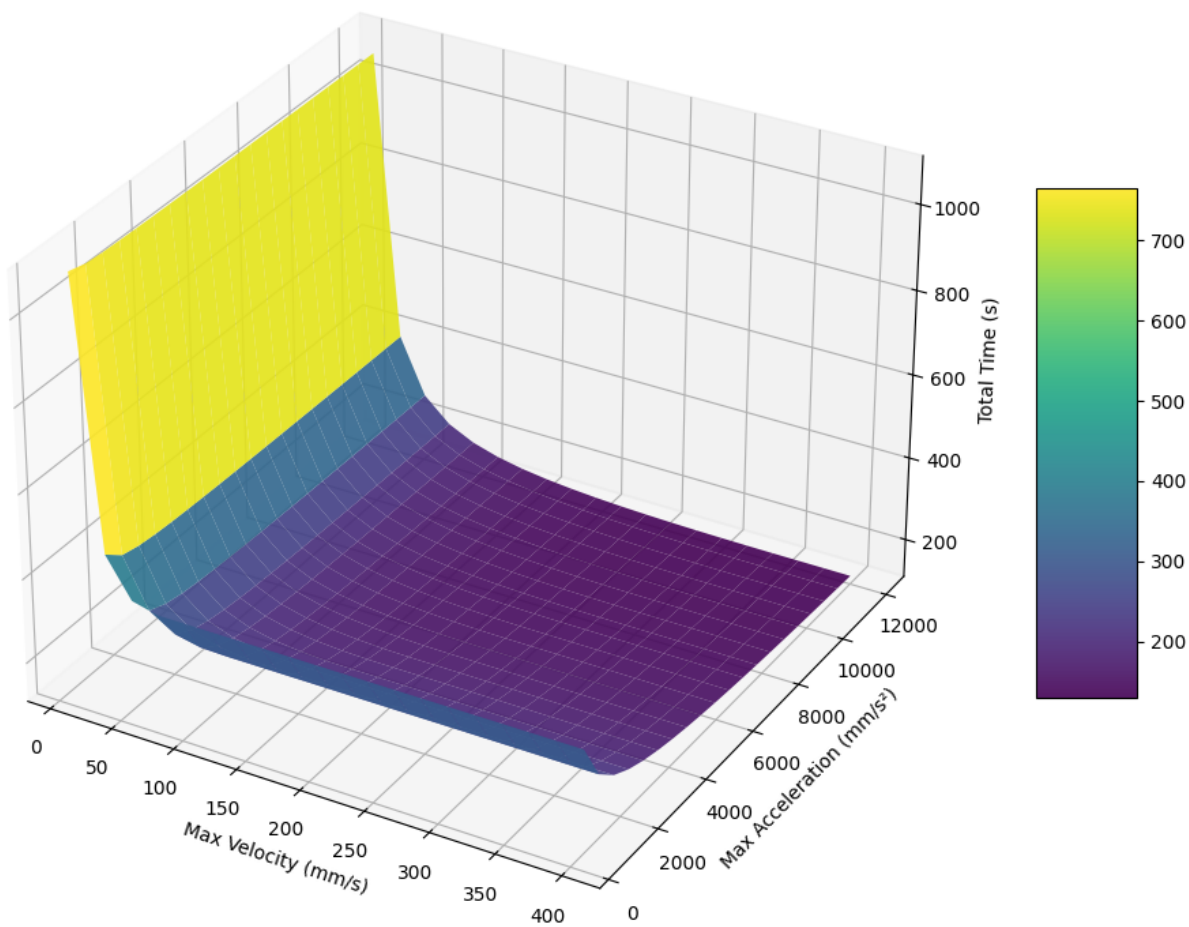
Velocity accel surface linear

Total Time vs Velocity and Acceleration (Linear Motor)

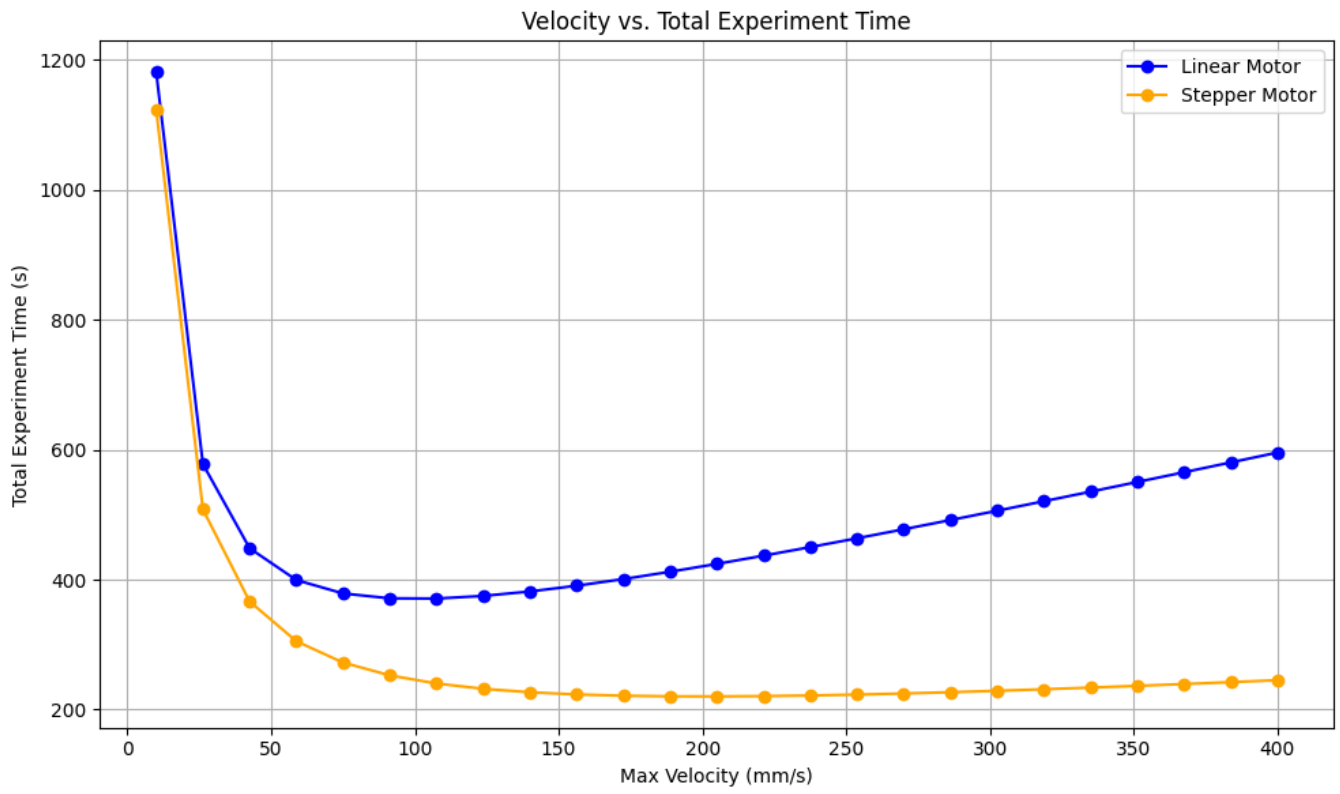


Velocity accel surface stepper

Total Time vs Velocity and Acceleration (Stepper Motor)



Velocity vs time



Vendor stages time breakdown

