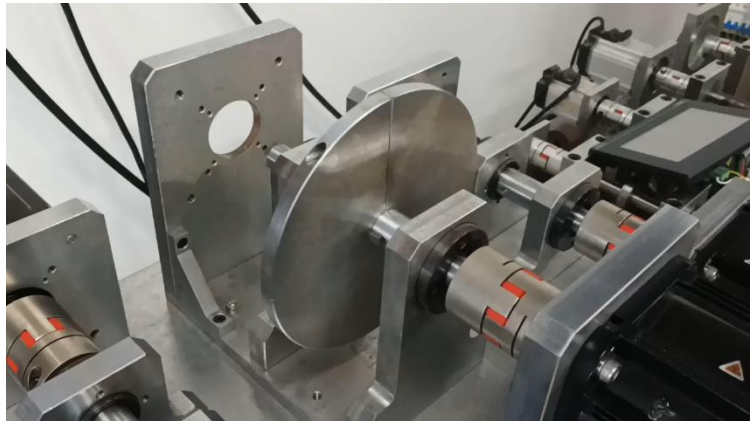
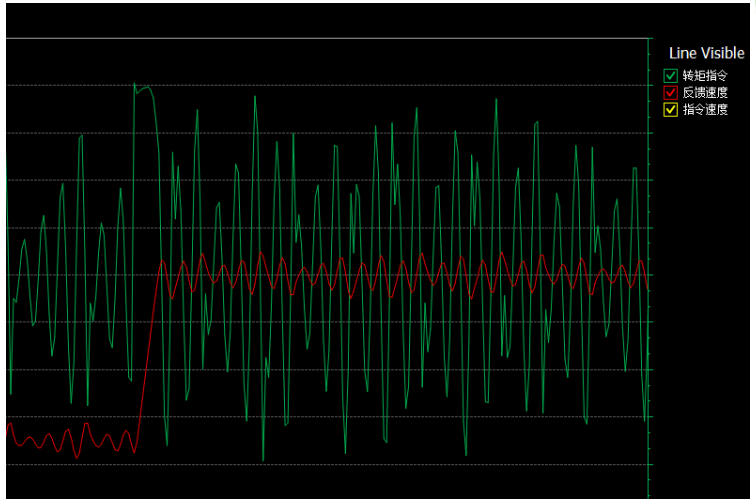
Auto-tuning

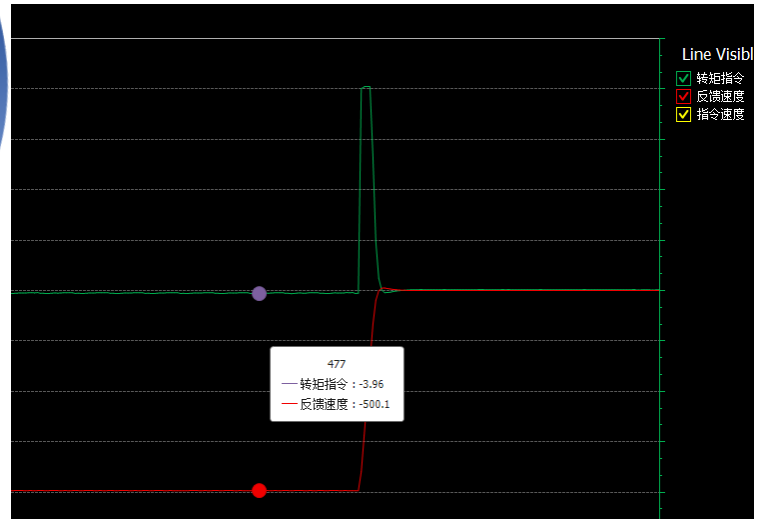
Servo tuning-Auto tuning





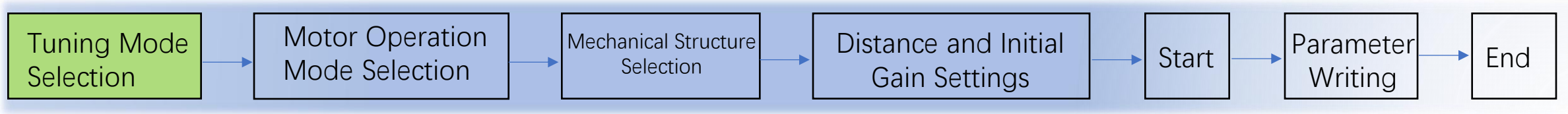
Before tuning
• Significant speed fluctuations
• Shakes when stopped

After tuning
Minimal speed fluctuation
Stable during stops



Servo tuning-Auto tuning

201 Advanced Auto-Tuning (Without PLC) Operation Method



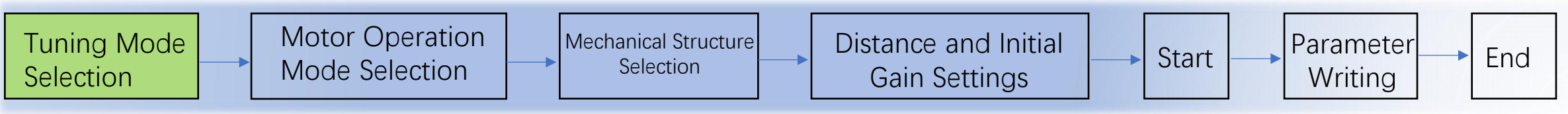
① Open Advanced Auto-Tuning Menu

② Tuning Mode Selection

- Advanced Auto-Tuning (No PLC commands; servo automatically completes enable and runs motor)
- Command Input Type Advanced Auto-Tuning (PLC controls servo operation)

Servo tuning-Auto tuning

201 Advanced Auto-Tuning (Without PLC) Operation Method

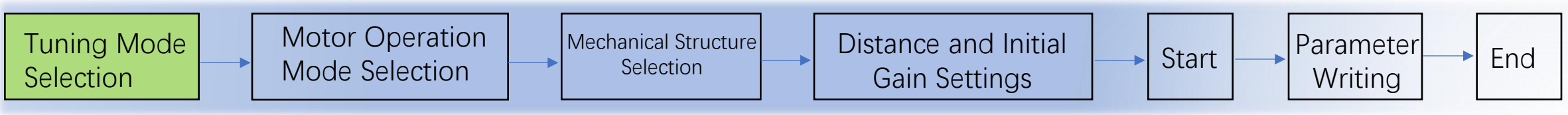


③ Motor Operation Mode Selection

- Auto Mode 1: Adjusts gain, notch filtering, and Type A vibration suppression
- Auto Mode 2: Adjusts gain, model tracking, notch filtering, Type A vibration suppression, and vibration suppression
- Auto Mode 3: Adjusts gain, notch filtering, Type A vibration suppression, and vibration suppression

Servo tuning-Auto tuning

201 Advanced Auto-Tuning (Without PLC) Operation Method

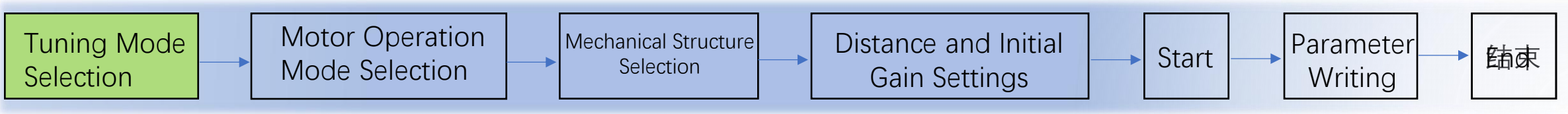


④ Mechanical Structure Selection

- Conveyor Belt Structure
- Ball Screw or Linear Motor
- Rigid System

Servo tuning-Auto tuning

201 Advanced Auto-Tuning (Without PLC) Operation Method

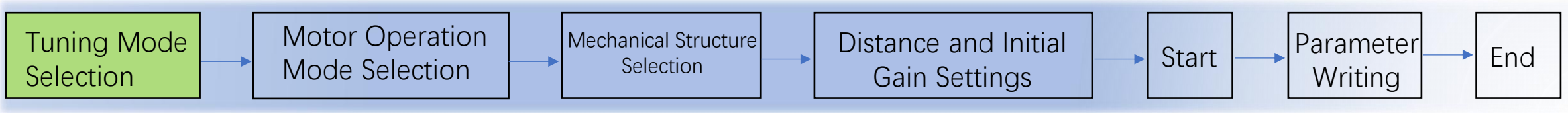


⑤ Distance, initial gain setting, and positioning completion width setting

- Automatically adjust the travel distance setting
- Set the speed loop gain and speed integral time constant at the start of adjustment
- The positioning completion width generally does not require modification(If tuning failed, increase this value)

Servo tuning-Auto tuning

201 Advanced Auto-Tuning (Without PLC) Operation Method



⑥ Click start

Perform inertia identification and gain search by default.

Note: If inertia estimation fails:

1. Do not connect CN1
2. Check gear ratio

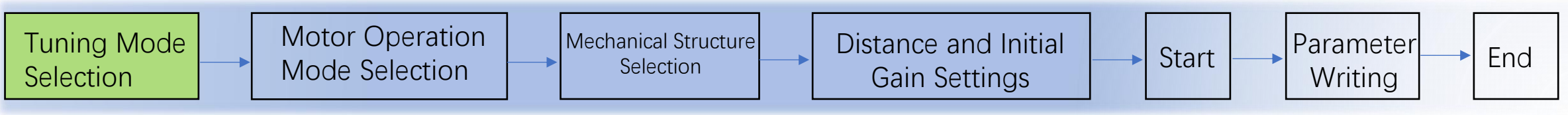
When Pn20E=8388608 (23bit), Pn210 minimum value cannot be set below 350; otherwise,auto-tuning will fail

If Pn210 < 350 (e.g., 300), the drive's internal algorithm will compute a 0 travel distance for inertia estimation, it will cause the auto-tuning stucks at the interia estimation process, then timeout.

3. Try to initial the parameters
4. For eccentric mechanisms, self-tuning is currently unsupported; estimation may fail

Servo tuning-Auto tuning

201 Advanced Auto-Tuning (Without PLC) Operation Method



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⑦ Click to write the result into servo

Servo tuning-Auto tuning

201 Advanced Auto-Tuning (Without PLC) Operation Method