Vimfun Maintenance Checklist

Daily, Weekly, and Monthly Maintenance Tasks for Endless Diamond Wire Saw

Daily Maintenance

No.	Item	Task Description	Purpose
1	Equipment Cleaning (5S)	Clean surface dust, chips, and coolant residue, especially on bellows. Excess buildup may cause bellows deformation.	Prevent mechanical wear and maintain motion smoothness.
2	Tension Mechanism	Clean dust from the tension system, bearing seats, and pulleys; check for abnormal sound or wear.	Avoid tension instability and premature bearing failure.
3	Machine Surface	Wipe the worktable, cover, and housing; ensure protective covers are intact and undamaged.	Maintain appearance and protect inner components.
4	Electrical Switches	Check all buttons and emergency stop for smooth operation; no broken parts.	Guarantee operation safety.
5	Coolant Circulation	Confirm coolant flow is normal, filter not clogged.	Ensure proper cooling and cutting efficiency.
6	Worksite Cleanliness	Keep the area tidy, tools organized, and remove debris daily.	Maintain a safe and orderly workplace.
7	Daily Inspection Record	Complete the inspection form; record any abnormal conditions.	Enable traceability and preventive maintenance.

Weekly Maintenance

No.	Item	Task Description	Purpose
1	Tension System	Spray WD-40 anti-rust oil on tension components; verify cylinder and manual valve move smoothly.	Maintain stable tensioning and prevent rust.

2	Lubrication	Use the manual oiler to refill each lubrication point; check that oil reaches all lines.	Ensure smooth linear motion.
3	Air Supply System	Inspect air pressure stability; drain moisture from the air filter/water separator.	Prevent air leakage and ensure pneumatic reliability.
4	Motor & Belt	Listen for abnormal motor sound; check timing belt for slipping or cracks.	Prevent drive failure.
5	Sensor Function	Test limit switches, homing sensors, and emergency stop reaction.	Avoid misoperation.

Monthly Maintenance

No.	Item	Task Description	Purpose
1	Electrical Wiring	Inspect for aging or loose connections; vacuum clean inside the electrical cabinet (never blow). Reseal cabinet afterward.	Prevent short circuits and ensure electrical safety.
2	Pulley & Bearing	Check groove wear and bearing looseness; replace if necessary.	Maintain wire stability.
3	Wire Groove & Guide Pulley	Clean dust from X/Y axis ball screws and linear guides; regrind grooves if worn.	Maintain precision and reduce vibration.
4	Coupler Screws	Retighten coupler screws between stepper motor and ball screw.	Prevent backlash and accuracy deviation.
5	Air & Electrical Circuits	Ensure all pneumatic and electrical connectors are secure, no leakage.	Guarantee stable system performance.
6	PLC / Software	Backup control program; verify HMI touch response and calibration.	Prevent system crash or loss of parameters.
7	Cutting Efficiency	Replace or rotate guide wheel grooves periodically; change the entire wheel set when all grooves are worn.	Maintain optimal cutting quality.

8	Motor Temperature	Check stepper motor temperature (<100 °C is normal).	Confirm motor health.
9	Mechanical Limit	Do not adjust mechanical limit switches from factory position.	Prevent over-travel damage.

Additional Notes

- Always power off the machine before performing maintenance.
- Use vacuum cleaning; do not blow air into electrical components.
- Keep detailed records in the Maintenance Log Sheet.
- Replace coolant, filters, and guide wheels per wear condition or usage time.
- Ensure good grounding of electrical system and stable air pressure during operation.