

# PMC-2000 CNC MACHINE MANUAL

Model: PMC-2000  
Serial Number: PMC2000-001  
Manufacturing Date: 2024

## CHAPTER 1: SAFETY INSTRUCTIONS

### ***SAFETY CRITICAL REQUIREMENTS:***

- Always wear safety glasses and hearing protection
- Steel-toed safety boots required
- Close-fitting clothing (no loose sleeves)
- Emergency stop button must be functional
- Never operate without proper training

## CHAPTER 2: MACHINE SPECIFICATIONS

### ***PMC-2000 TECHNICAL SPECIFICATIONS:***

Parameter	Value	Unit	Notes
Maximum Spindle Speed	12000	RPM	Variable frequency control
Spindle Motor Power	15	kW	20 HP equivalent
X-Axis Travel	1200	mm	47.2 inches
Y-Axis Travel	800	mm	31.5 inches
Z-Axis Travel	600	mm	23.6 inches
Positioning Accuracy	±0.005	mm	Tested per ISO 230
Tool Magazine Capacity	24	tools	Automatic tool changer
Weight	3500	kg	7716 lbs

## CHAPTER 3: OPERATING PROCEDURES

### ***MACHINE STARTUP SEQUENCE:***

1. Perform pre-startup inspection checklist
2. Turn main power switch ON
3. Wait for system initialization (approximately 45 seconds)

- 4. Verify all axis position indicators show HOME position
- 5. Load required CNC program
- 6. Install appropriate tooling in magazine
- 7. Set workpiece coordinates and zero points

CHAPTER 4: MAINTENANCE PROCEDURES

SCHEDULED MAINTENANCE:

Task	Frequency	Duration	Notes
Lubricate ball screws	Every 40 hours	15 minutes	Use specified grease only
Check coolant level	Daily	5 minutes	Top up as needed
Clean chip conveyor	Weekly	30 minutes	Remove all metal chips
Inspect tool magazine	Monthly	45 minutes	Check tool retention
Calibrate positioning	Quarterly	2 hours	Use laser interferometer

CHAPTER 5: TROUBLESHOOTING GUIDE

ERROR CODES AND SOLUTIONS:

ERROR E100: Spindle Overheat

Cause: Excessive spindle RPM or insufficient coolant  
Solution: Reduce RPM, check coolant flow, verify temperature sensors

ERROR E200: Axis Following Error

Cause: Mechanical binding or servo drive malfunction  
Solution: Check axis movement, inspect ball screws, verify servo parameters

ERROR E300: Tool Change Timeout

Cause: Tool magazine mechanical issue or sensor fault  
Solution: Inspect tool magazine rotation, check sensors, verify tool presence

CHAPTER 6: TECHNICAL SUPPORT

WARRANTY INFORMATION:

- Machine warranty: 3 years from delivery date
- Spindle warranty: 2 years or 8000 operating hours
- Software support: 5 years with annual updates

***TRAINING COURSES:***

- Basic Operation Certification (40 hours)
- Advanced Programming (80 hours)
- Maintenance Technician Course (120 hours)

***CONTACT INFORMATION:***

Technical Support: +1-800-CNC-HELP  
Emergency Service: +1-800-CNC-911  
Email: [support@pmc-cnc.com](mailto:support@pmc-cnc.com)