

Digital Technology Improves Life



+86-0755-26983202

info@up3dtech.com

www.up3dtech.com



P53DC

5-AXIS DENTAL MILL
WITH AUTOMATIC
DISC CHANGER

5

Axes

12

Disc

6

Blocks

11

Tools

Dry
Milling

Non-Stop Milling, Unmatched 24/7 Productivity



UNATTENDED, SMART, AND RELIABLE AUTOMATED MILLING EXPERIENCE

Imagine a process managed entirely by an intelligent system—just set the task and focus on other priorities. You can boost your productivity even outside of regular hours or when you're away. The P53DC makes unattended milling a reality, maximizing productivity, reducing errors, and offering a smoother, more flexible, and cost-effective production experience.

Automatic Disc Changer

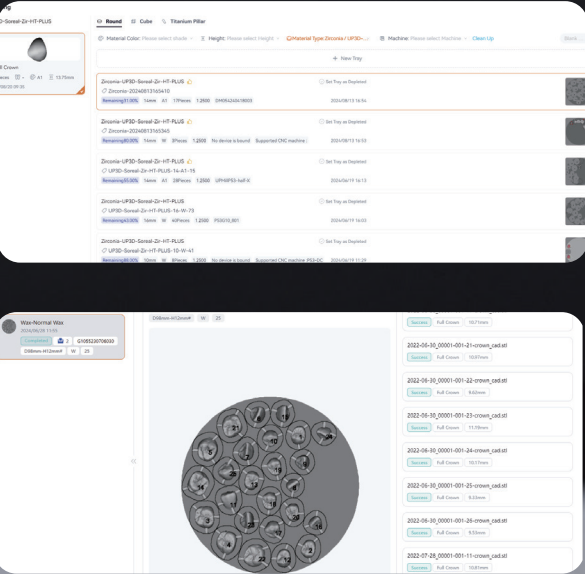
Disc Capacity - the P53DC features a large disc capacity, which is capable of accommodating 12 different discs and multiple shades of zirconia, replacing the zirconia disc as ordered.



Smart Material Management System

• Smart Order Management (Smartassign)

- Quick Import:**
Batch import design orders with one click
- Intelligent Recognition:**
Automatically identifies design type, color, and thickness for easy categorization
- Automatic Material Matching:**
Recommends optimal materials based on design specifics

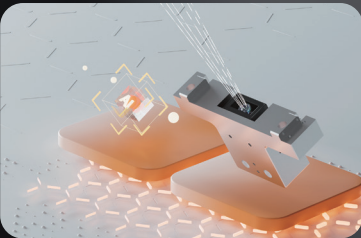


• Smart Nesting

Import dental design data, intelligently position teeth within the disc, and automatically generate pin placements.

Smart Disc Identification Technology

With smart disc identification technology, materials can be placed in any slot. The system automatically identifies and processes disc information, speeding up production automation.



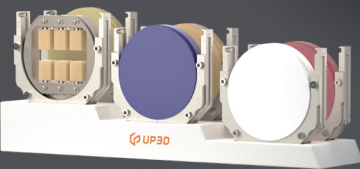
MillMind Remote Monitoring

MillMind software allows you to remotely manage and control your milling device via your smartphone. Monitor production status anytime, anywhere, without the need for on-site supervision.



Pre-Loadable Material Adapters

Six pre-loadable material adapters with unlimited expansion, allowing efficient management of various material types.

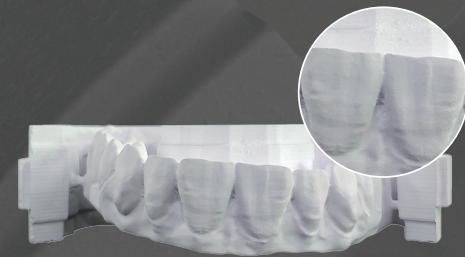


BIONIC AESTHETIC MILLING PRECISION MILLING SOLUTION

The P53DC redefines the precision and efficiency of dental restorations with bionic aesthetic milling. It delivers outstanding aesthetic results while maximizing material utilization and significantly reducing the need for manual finishing. This allows your dental lab to deliver high-quality restorations faster and more efficiently, meeting your clients' strict demands for detail and aesthetics.

90° Vertical Milling

Designed for areas requiring high precision and aesthetics, 90-degree vertical milling precisely textures the labial (or buccal) surfaces, enabling more diverse anterior tooth aesthetics. This approach significantly reduces complex post-processing time and lowers labor costs.

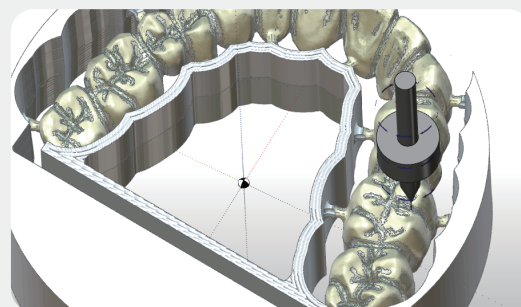


Innovative C-Clamp Design

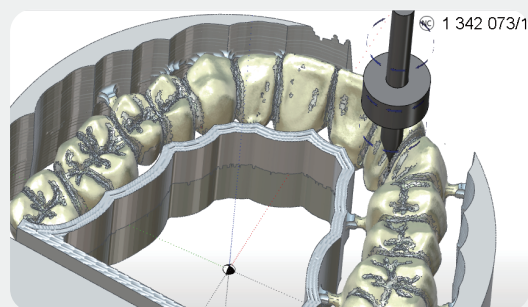
The C-clamp design expands buccal milling space, improves material nesting and edge utilization, and maximizes material savings, delivering greater economic benefits to dental labs.



CUSTOM STRATEGY FOR PRECISION MILLING

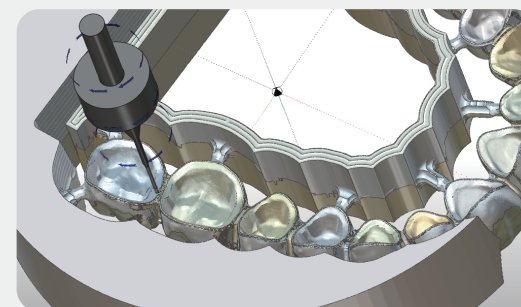


Milling occlusal grooves with a 0.2mm bur

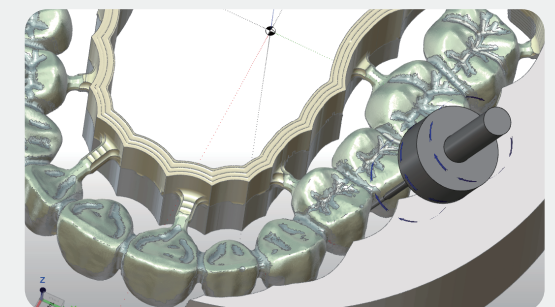


Milling interproximal spaces with a 0.2mm bur

With a custom 0.2mm micro-carving tool and a 0.6mm extended milling tool, it precisely mills occlusal details, perfectly replicating tooth morphology.



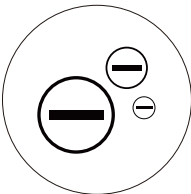
Milling margins with a 0.6mm bur



Milling interproximal spaces with a 0.6mm bur

THE PERFECT CHOICE FOR RESIN MILLING

The P53DC makes resin processing simpler and more efficient, becoming your trusted partner for achieving outstanding restorations.



Enhanced Ionizer

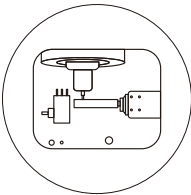
The ionizer effectively neutralizes static electricity, preventing debris from adhering to the working chamber and tools, which could compromise milling accuracy. This ensures long-term, stable milling of PMMA and resin materials, delivering a clean and smooth milling process that enhances overall quality.



Before

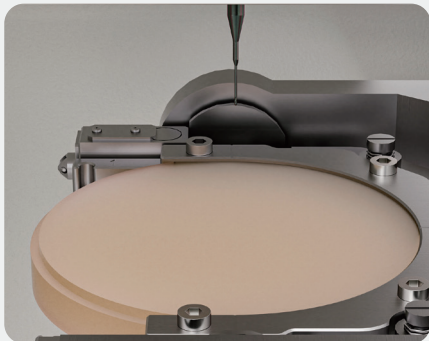
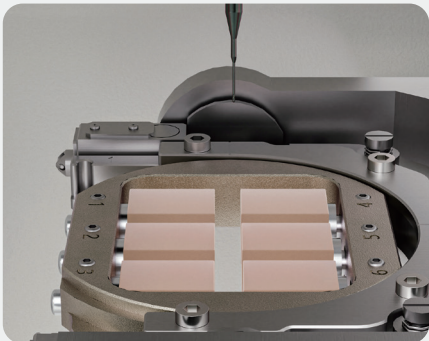


After



Compatible with Various Material Forms

Whether it's composite resin disc or block, the P53DC handles it with ease, providing greater flexibility for your dental lab.



ENSURE PRECISION AND EFFICIENCY

- Stable Milling, Greater Returns



Dustproof System Tailored for Dental Material Milling

Sliding Dust Cover Design

- Effectively prevents dust from entering the chamber, ensuring precise and efficient lead screw operation.

Simplified Maintenance

- The efficient dustproof system requires only basic cleaning and vacuuming, saving time and effort.

Comprehensive Hardware Optimization for Long-Term Precision Stability

Spindle Temperature Monitoring

- Built-in CNC overload warning system prevents overheating and spindle damage.

Advanced Spindle Protection

- Precise pressure regulator ensures stable spindle cooling and air pressure, greatly extending spindle life and ensuring smooth operation at peak performance.

Integrated Cast Aluminum Structure

- Thickened baseplate with reinforced support provides shock and impact resistance, significantly enhancing machine stability and durability.

Hand-Free 24-hour Productivity



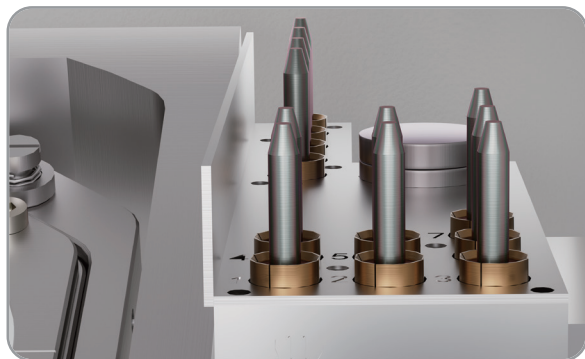
P53DC

Features



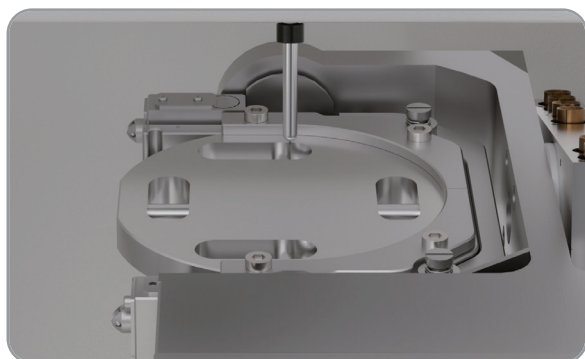
01 Closed-Loop Stepper Motor

The precise feedback system ensures stable material changing, while the motor disable function simplifies material adapter positioning, boosting production efficiency.



02 Automatic Tool Changer

With an 11-tool capacity, the automatic tool changer supports continuous milling across different materials, minimizing downtime, boosting efficiency, and ensuring precision and stability while reducing maintenance costs.



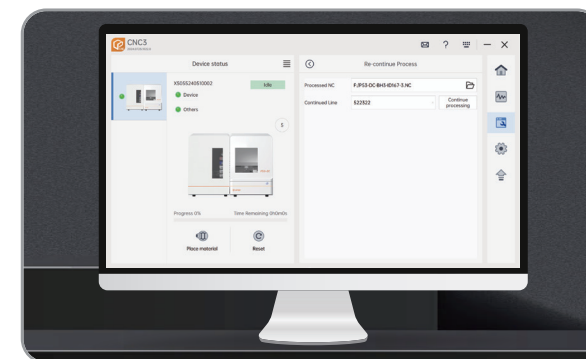
03 One-Click Auto Calibration

One-click intelligent calibration simplifies the process, ensuring continuous accuracy with minimal effort.



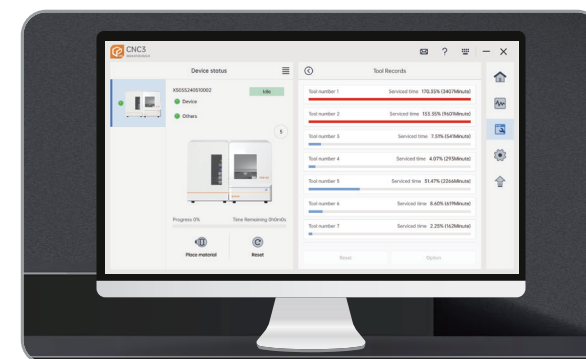
04 Indicating Light Bar

The external light bar provides real-time updates on milling progress and device status, reducing the need for manual checks and enhancing efficiency.



05 Resume from Breakpoint

No worries about unexpected stops—if milling is interrupted, the software automatically resumes from where it left off, avoiding redundant work.



06 Tool Life Monitoring

CNC-3 automatically calculates tool wear and, with smart alerts, plans the tool usage cycle judiciously to minimize the risk of chipping and processing failures.

UPCAM

Advanced Dental Nesting Software

Seamless Integration | Easy to Use



User-Friendly: Completes the entire process in just a few simple steps

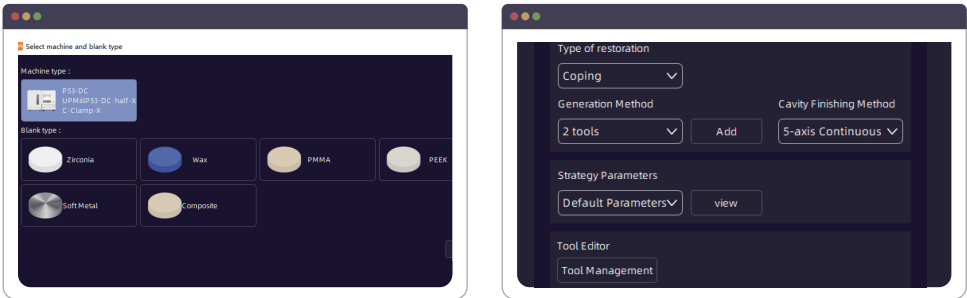
Fast Nesting

Generate NC files for a single tooth in just 30 seconds; full disc in 6 minutes



Comprehensive Solution

Supports all popular materials with customizable milling strategies



Toolpath Simulation

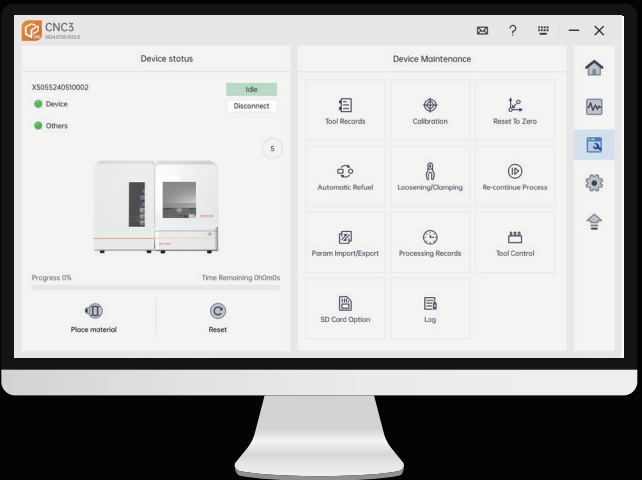
Preview milling with precision to identify potential risks in advance



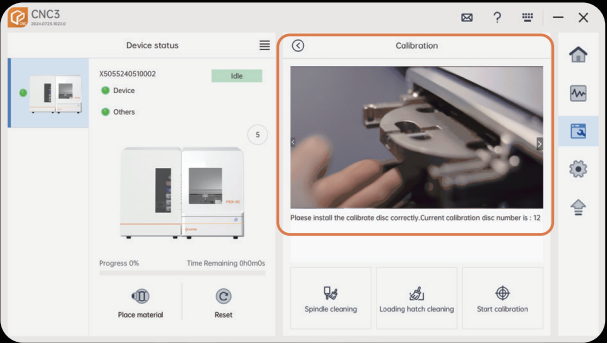
CNC-3

New Control Software

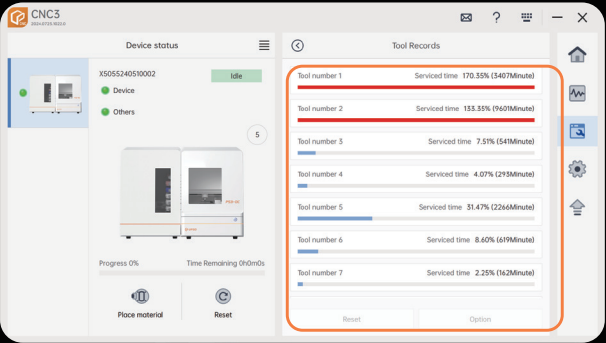
Simpler | More Efficient



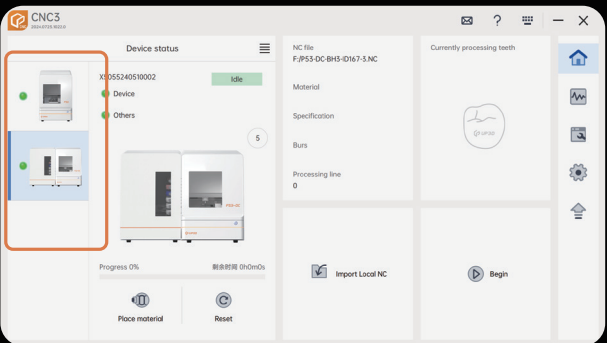
01 One-Click Auto Calibration



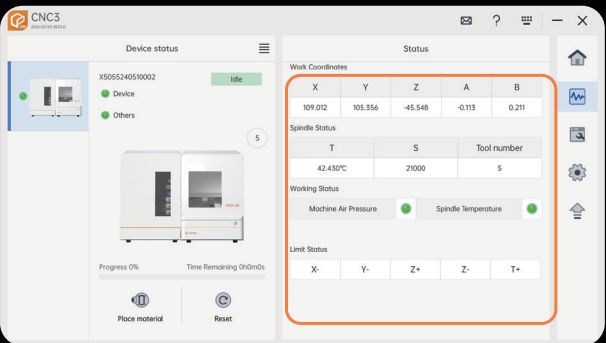
02 Tool Life Monitoring



03 Control Multiple Devices



04 Real-Time Operation Tracking



FREEDOM OF CHOICE IN CREATION

MATERIALS	 Zirconia	 PMMA	 PEEK	 Composite Resin
 Coping/ Full Crown	✓	✓	✓	✓
 Bridge	✓	✓	✓	✓
 Inlay/Onlay	✓			✓
 Veneers	✓			✓
 Screw-Retained Crown	✓	✓		✓
 Custom Abutment	✓		✓	
 Thimble Bar	✓		✓	
 Partial Denture Frameworks	✓	✓	✓	
 Superstructures Over Bars	✓	✓		
 Full Dentures		✓		
 Full Dentures without Teeth		✓		
 Bite Splint		✓		

TECHNICAL SPECIFICATIONS

Dimensions	720×875×630 mm
Weight	138Kg
Input Voltage	AC 100V-130V, AC 200V-240V, 50~60Hz(selectable)
Maximum Power	High Pressure: 1.3KW Low Pressure:0.55KW
Spindle Power	Peak power (Pmax): 900 watts • continuous power (SI): 350 watts
Number of Axes	Five-axis simultaneous
Milling Range	X/Y/Z:167/206/104mm A:±30° B:±360°
Milling Type	Dry milling
Max Spindle Speed	40,000rpm
Max Feed Rate	3000mm/min
Tools Quantity	11
Disc Library Quantity	12
Tool Change Method	Automatic (air pressure > 0.35MPa)
Spindle Cooling	Air Cooling, Compressed Air (pressure: 0.15~0.20MPa)
Materials	Zirconia, Wax, PMMA, PEEK, chrome cobalt sinter metal, Composite Resin
Milling Time	Coping: Zirconia 10 minutes, Wax 4.5 minutes Full crown: Zirconia 13 minutes, Wax 5.5 minutes
Disc Size	Maximum Φ98*30 disc
Spindle Clamping Diameter	Φ4.0mm
CAM Support	UPCAM
Data Transmission	Network interface