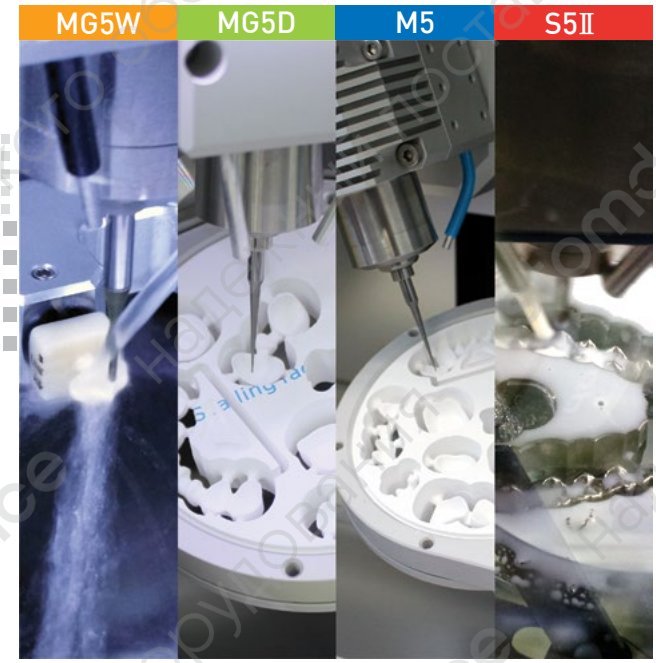
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DENTAL PLUS

DENTAL CAD CAM SYSTEM

www.dental-plus.co.kr



NEW World of CAD/CAM Dentistry

Manufacturing Company

CE GMP KFDA 식품의약품안전청

надежный поставщик стоматологического оборудования

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DENTAL PLUS

DENTAL CAD CAM SYSTEM

Dental Plus Provides **OPEN CAD CAM** system to the world

надежный поставщик стоматологического оборудования

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Glass ceramic Milling

Plus Mill MG5D
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Zirconia, PMMA, WAX, etc...

Plus Mill S5Ⅱ
Glass ceramic, Titanium, Zirconia, PMMA, WAX, Soft metal, etc...

Optional Items

Technical data

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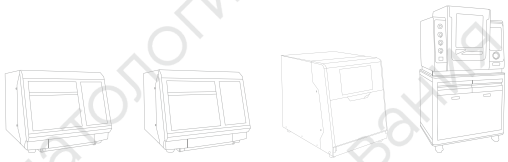
Milling Material Specification

P : PMMA
W : WAX
M : Metal
Z : Zirconia
G : Glass Ceramic



Type	MG5W	MG5D	M5	S5Ⅱ
Copping	G	Z, P, W	Z, P, W	G, Z, P, W, M
Copping Bridge	–	Z, P, W	Z, P, W	G, Z, P, W, M
Crown	G	Z, P, W	Z, P, W	G, Z, P, W, M
Crown Bridge	–	Z, P, W	Z, P, W	G, Z, P, W, M
Abutment	G	Z, P, W	–	G, Z, P, W, M
Abutment Bridge	–	Z, P, W	–	G, Z, P, W, M
Abutment Crown & Bridge	–	Z, P, W	–	G, Z, P, W, M
Inlay / Onlay	G	Z, P, W	Z, P, W	G, Z, P, W, M
Inlay / Onlay Bridge	–	Z, P, W	Z, P, W	G, Z, P, W, M
Anatomical Inlay / Onlay	–	Z, P, W	Z, P, W	G, Z, P, W, M
Inlay / Onlay Crown Bridge	–	Z, P, W	Z, P, W	G, Z, P, W, M
Telescope	–	Z, P, W	Z, P, W	G, Z, P, W, M
Overpress	–	Z, P, W	Z, P, W	G, Z, P, W, M

Limited form of abutment





Plus Mill MG5W

Compact Size 5Axis Glass Ceramic Milling Machine





Plus Mill MG5D

Compact Size 5Axis Zirconia Milling Machine

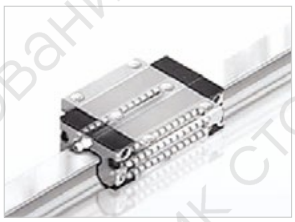
The world's top compact Size 5Axis



Harmonic Drive



Ball Screw



LM Guide



Built-in computer



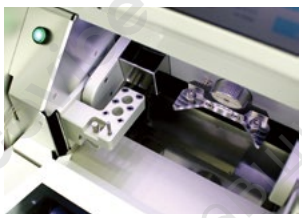
Built-in monitor

- Auto Calibration
- 5-Axis Milling System with Stepping Motor and Simultaneous Controller
- Full Mouth Bridge Abutment Milling
- A axis and B axis ±25° Tilting Milling
- Undercut Milling by Rotating and Tilting Table
- Compatible with Disk Blocks of Ø98.5mm

- Control of 5-Axis(X, Y, Z, A, B) by the Built-in Controller
- 7 Tools Automatic Changer
- Highly Effective 450W Spindle Motor
- Tool's Length Correction by the Touch Sensor
- Built-in monitor equipped to minimize the wasted space
- Well-fitted design with authenticity to create a modern design
- Easy Interface for Beginners
- Fast and Precise Molding
- Compact Milling Machine Requires Less Space
- Dust Removal through Air Jet Processing of Objects
- Efficient Dust Emissions through External Dust Collector
- Compatible with Various Block Shapes







Size	405 X 475 X 507.5 (575) mm
Weight	50kg
Spindle	30,000RPM or 50,000RPM / 450W
Tool Pocket	7ea / Tool Shank Size : Ø4
Axis	Simultaneous 5-axis
Motor	5 Pulse stepper motors



Glass Ceramic Milling

Plus Mill MG5W



Plus Mill MG5W is the milling machine exclusively for glass ceramic materials.
It's 5-Axis motion allows more sophisticated and detailed products to be made, as well as the undercut milling that 4-Axis motion is not capable of.

Plus Mill MG5W is the most compact state-of-the-art milling machine that guarantees high-quality products.
The machine is capable of accomplishing 1Day CAD/CAM process with its time-efficient technology.
Any variable of glass ceramic materials can be mulled with Plus **Mill MG5W**.
The diamond bur in **Plus Mill MG5W** is strong enough to manufacture more than ten blocks of glass ceramic per unit.



Diamond bur

The most detailed diamond bur using Ø1~2mm.
The diamond bur can milling more than 10 unit of Crown and Inlay



50,000RPM 450W Powerful Spindle Motor

With the 50,000 RPM spin cycle of diamond bur, MG5W allows more detailed manufacture of glass ceramic than any other machines. 450W power spindle can mull ceramic blocks from any manufacturing companies with no difficulty.



7 Tool Pocket

Having 7 tool pockets, the MG5W automatically replaces one spindle from another by the personalized cycle of usage settings.



Water tank (circulation method)

Plus Mill MG5W water tank is equipped with large-sized circulation pump. Its transparent water bowl helps to retain clean water in its state.

Refilling water is handy as the water tank has its own drainage system In the process of manufacturing, the tank automatically lets out water when cutting.

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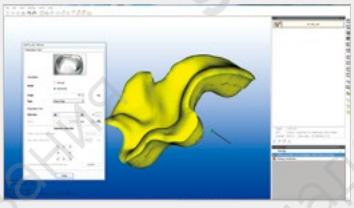


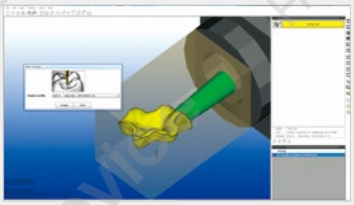
hyperDENT®

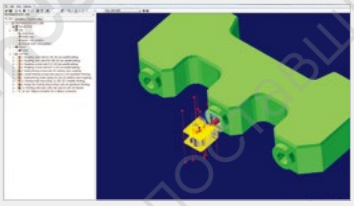
Dental Plus uses Dental-Hyper DENT from Open mind, the CAM software firm in Germany.

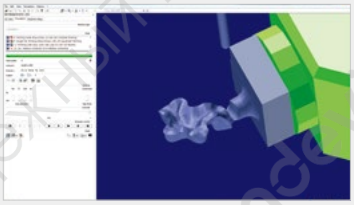
Plus Mill MG5W provides special template that has been developed program for **MG5W**











Glass Ceramic Milling Time

Photo	Type	Milling Time	Material
	Inlay	14:23	Vita Mark II / I8
	Inlay	16:23	Vita Mark II / I8
	Inlay	17:10	Vita Mark II / I8
	Inlay	17:47	Vita Mark II / I8
	Crown	30:41	Vita Mark II / I12
	Crown	30:41	IPS e-max CAD LT A2 /12
	Crown	26:35	HASS Rosetta C14



Plus Mill MG5D



Plus Mill MG5D is the milling machine exclusively for Zirconia materials. Its 5-Axis motion supports Zirconia abutment milling, as well as the undercut milling method that 4-Axis motion was not capable of. **MG5D** is capable of making various shapes of result that needs to be mulled with complicated pass angle.



Tool - Ball End Mill

Plus Mill MG5D has powerful yet silent spindles that is not distracting in any place.



30,000RPM 450W Powerful Spindle Motor

Plus Mill MG5D has powerful yet silent spindles that is not distracting in any place.



Auto Tool Change

Plus Mill MG5D can make auto tool changer. Seven tools are in the tool pocket for convenient use. It only takes 20 to 25 seconds to change tools.



Block Jig Change

Plus Mill MG5D easily changes the blocks and minimizes contamination from Zirconia powder by collecting dust in from the interior.

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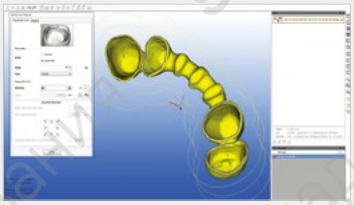


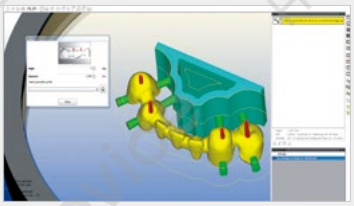
hyperDENT®

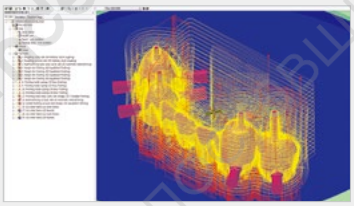
Dental Plus uses Dental-Hyper DENT from Open mind, the CAM software firm in Germany.

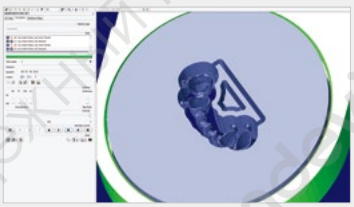
Plus Mill MG5D provides special template that has been developed program for **MG5D**











Dry Milling Time

Photo	Type	Milling Time	Material
	Copping Bridge & Frame	1:02:30	Zirconia
	Copping Bridge & Frame	1:02:30	Zirconia
	Copping Bridge	36:30	Zirconia
	Crown Ø0.5mm	18:32	Zirconia
	Inlay	30:09	Zirconia
	Copping Crown Bridge	–	PMMA
	Copping Crown Bridge	–	WAX



Plus Mill M5



Compact and lightweight 5-Axis milling machine

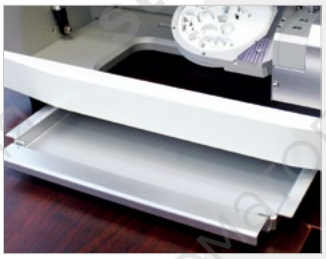
Plus Mill M5 is a popular model of **Dental CAD/CAM Milling Machine** which has the advanced 5-Axis of the extremely compact size and competitively priced.
Best skilled technicians and engineers develop and produce highly efficient **Dental CAD/CAM Milling Machine**.













- Auto Calibration
- 5-Axis Milling System with Stepping Motor and Simultaneous Controller
- Full Mouth Bridge Abutment Milling
- A axis and B axis ±25° Tilting Milling
- Undercut Milling by Rotating and Tilting Table
- Compatible with Disk Blocks of Ø98.5mm

- Control of 5-Axis(X, Y, Z, A, & B) by the Built-in Controller
- 4 Tools Automatic Changer
- Highly Effective 450W Spindle
- Tool's Length Correction by the Touch Sensor
- Dry Milling Available
- Excellent Compatibility with Various CAM Programs
- Easy Interface for Beginners
- Fast and Precise Molding
- Compact Milling Machine Requires Less Space
- Dust Removal through Air Jet Processing of Objects
- Efficient Dust Emissions through External Dust Collector
- Compatible with Various Block type
- Low Noise, Fast & Precise Milling

Size	450 X 490 X 382mm
Weight	45kg
Spindle	30,000RPM / 450W
Tool magazine	4ea / Tool Shank Size : Ø4
Axis	Simultaneous 5-axis
Motor	5 Pulse stepper motors





External device On / Off Control

- **Plus Mill** provides the on and off control through the M-code to power the dust collector.
- You can control three external devices' power and reduce unnecessary energy consumption.



Power Off



Power On



Door Open

Dry Milling Time

Photo	Type	Milling Time	Material
	Copping	38:35	Zirconia
	Copping Bridge	44:02	Zirconia
	Crown	34:58	Zirconia
	Crown Bridge	–	Zirconia
	Copping Crown Bridge	–	PMMA
	Copping Crown Bridge	–	WAX

Network Data Transfer

- Transmit the Generated Date over the LAN
- Online Maintenance Available
- Easy Upgrade through Online Requests



Dry & Water / Ceramic & Metal Milling

Plus Mill S5Ⅱ

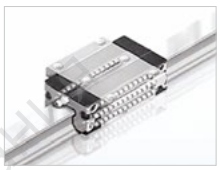
5-Axis Milling System with Servo Motor and Simultaneous Controller



Harmonic Drive



Ball Screw



LM Guide

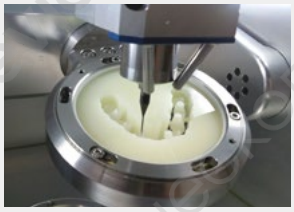


Built–in Computer



Touch Screen
Built–in monitor

- Full Mouth Bridge Abutment Milling
- Each Screw Hole of Above 25° Tilting Milling
- Undercut Milling by Rotating and Tilting Table
- Compatible with Disk Blocks of Ø98.5mm
- Compatible with Square Blocks of 100mm x 100mm





- Easy Interface for Beginners
- Fast and Precise Molding
- Convenient Operation via Touch Screen
- Compact Milling System Requires Less Space
- Dust Removal through Air Jet Processing of Objects
- Efficient Dust Emissions through External Dust Collector
- Compatible with Various Block Shapes
- Low Noise, Fast & Precise Milling



Network Data Transfer

- Transmit the Generated Date over the LAN
- Online Maintenance Available
- Easy Upgrade through Online Requests



Touch Screen & Graph user interface

Plus Mill Provides an intuitive graphical interface for the user-friendly and easy user experience.
To start, load the generated data and press the start button.
Plus Mill S5Ⅱ internal safety programs actively work out to suppress equipment clash by user mistakes.

- Beautiful Screen Design
- Simple Button Operation
- Configuration for Operating Associated Equipment
- Lighting icon shows the condition at a glance
- No Need to Use Functional Screen



OPEN CAM

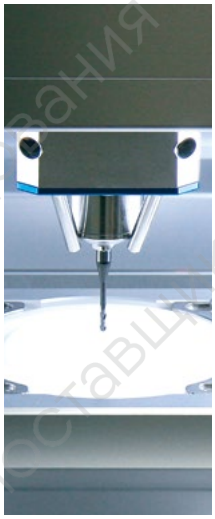


▲ Easy Jig Changes for Fitting to the Preferred Block Shapes





- Control of 5-Axis(X, Y, Z, A, & B) by the Built-in Controller
- 8 Tools Automatic Changer
- Highly Effective 800W Spindle
- Tool's Length Correction by the Touch Sensor
- Emergency Stop System in case of a Malfunction of Feed Shaft
- Easy Analysis of Errors on the Screen Detected by Each and Every Sensor
- Both Wet and Dry Milling Available
- Excellent Compatibility with Various CAM Programs

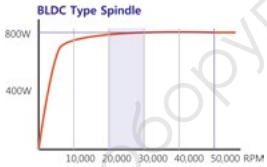


High Effectiveness 800W Spindle

Automatic Correction of Torque and Speed Corresponding with the Milling Load by the 800W BLDC Spindle

Various Materials Can Be Processed.

RPM : Rated 30,000 Max. 50,000
Power : 800W BLDC Motor
Cooling : Air
Bearing : 4pcs
Housing Diameter : Ø32mm, Ø50mm





Size	743 X 640 X 610mm
Weight	110kg
Spindle	50,000RPM / 800W
Tool magazine	8ea / Tool Shank Size : Ø4
Axis	Simultaneous 5-axis
Motor	Servo Motor

8 Tool & Automatic Tool Change

Installing 8 tools at once for efficient operation

Automatic tool change by the G-code no restriction for tool length Automatic tool offset setting with high precision tool touch sensor

Sensor installed in each tool pocket detects errors during tool change

Various shapes of tools with shank Ø4mm, and tool length 1~25mm



Dedicated Table

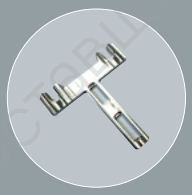
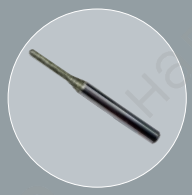
Plus Mill's dedicated table keeps the o timal rigidity for the axis travel during milling operation.

It suppresses at maximum inertia vibration caused during the axis shift and offers room for the installation of milling's external devices The body of **Plus Mill S5Ⅱ** receives external control signals to turn on and off the external devices

The design of a dedicated table suits the body of **Plus Mill**, giving a clean image of the dental office

You can install small dust collectors or small water tanks inside the dedicated table.

Dimension : 780 x 730 x 610mm

Options



Optional Items

		Plus Mill			
		M5	MG5D	MG5W	S5Ⅱ
	Disk Hold Jig	O	O	O	O
	Disk Hold Jig Ring	O	O	O	O
	ceramic glass Jigs hold	–	–	O	O
	Water circulation tank	–	–	O	O
	Only table	–	–	–	O
	Auto Calibration block A	O	O	O	–
	Auto Calibration block B	O	O	O	–

Tool

	Ø2mm Ball End Mill (Diamond coating)	O	O	–	O
	Ø1mm Ball End Mill (Diamond coating)	O	O	–	O
	Ø0.5mm Ball End Mill (UnCoating)	O	O	–	O
	Ø2mm Diamond burs	–	–	O	O
	Ø1mm Diamond burs	–	–	O	O
	Calibration tools	O	O	O	–





Technical data

Section	Plus Mill MG5W (Water–Type)	Plus Mill MG5D (Dry–type)	Plus Mill M5 (Dry–type)	Plus Mill S5Ⅱ (Servo Motor Type)
Axis	5–Axis	5–Axis	5–Axis	5–Axis
Milling angle A, B	A axis ±25° / B axis free	A axis ±25° / B axis free	A axis Free / B axis ±25°	A axis ±25° / B axis free (A axis max ±135°)
Controller	Built in PC	Built in PC	Built in PC	Built in PC
Position control motor	5 Puls Step Motor / 5ea	5 Puls Step Motor / 5ea	5 Puls Step Motor / 5ea	Servo Motor / 5ea
Size W x H x D mm	405 x 475 x 507.5 (575)	405 x 475 x 507.5 (575)	450 X 392 X 543	743 X 640 X 610
Weight	50kg	50kg	45kg	110kg
Spindle RPM	50,000	30,000	30,000	50,000
Spindle Power	450W	450W	450W	800W
Spindle Type	High–frequency	High–frequency	High–frequency	BLDC Type
Tool Holder Size	4mm	4mm	4mm	4mm
Tool length compensation sensor	O	O	O	O
Tool Magazine	7	7	4	8
Compressed air check	O	O	O	O
Data transmission method	LAN, USB	LAN, USB	LAN, USB	LAN, USB
Operating Speed	2,500mm/min	2,500mm/min	2,500mm/min	3,500mm/min
Vacuum Port	X	O	O	O
Cleaning the drawer	O	O	O	X
a dust collector power	110~220V 15A	110~220V 15A	110~220V 15A	110~220V 15A
Water Drainage	O	X	X	O
External signal controller	1EA	1EA	1EA	3EA
Water tanks provide	O	X	X	O
Only table provides	X	X	X	O / 80kg
Zirconia	X	O / 98.5mm Disk Type	O / 98.5mm Disk Type	O / Block & Disk Type
WAX	X	O / 98.5mm Disk Type	O / 98.5mm Disk Type	O / Block & Disk Type
PMMA	X	O / 98.5mm Disk Type	O / 98.5mm Disk Type	O / Block & Disk Type
Titanium	X	X	X	O / Block & Disk Type
Chrome Cobalt	X	X	X	O / Block & Disk Type
Glass ceramic	O / Glass ceramic Block Type	X	X	O / Block & Disk Type
Power ±10%	220V / 3A / 150W	220V / 3A / 150W	220V / 3A / 150W	220V / 3.5A / 185W
service environment	5~30°	5~30°	5~30°	5~30°

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DENTAL PLUS
DENTAL CAD CAM SYSTEM

www.dental-plus.co.kr

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