



THE FIRST **AI** DENTAL
MILLING MACHINE





Spindle

M AI° utilizes the outstanding German spindle manufacturer Sycotec's DC 1.28kw.

Advantage of DC type spindle

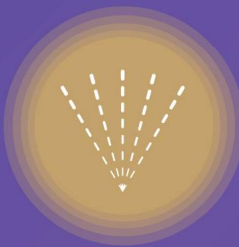
Precise Speed and Torque Control

Rapid Response

Exceptional Durability

Providing stable control at low speed

M AI°'s DC 1.28kw spindle can deliver more powerful torque compared to the AC type spindle of the same class, while providing a similar performance level as AC 2.2kw.



Nozzle

M AI° designed to spray cutting oil onto tool's blade from four different directions.

This sensitive design minimizes the contact time of cutting oil with tools during milling process, enabling stable machining operation.



Intuitive UI

M AI°'s user interface(UI) is designed to be intuitive for the user to understand and easy to use.

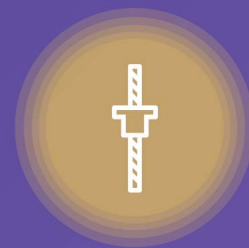
The user-friendly design not only allows novice users who are unfamiliar with the machine to easily operate it, but also facilitates smooth interaction between the equipment and the user. This simplifies tasks while maximizing efficiency and convenience.

90-degree Milling

M AI°'s Jig is designed to secure the space for various milling directions.

This intention reduces the occurrence of undercuts to a minimum.

Full closed loop control system of M AI° ensures precise control, even as each axis allows free movement in various directions. As a result, complex machining tasks using highly versatile accessories can be performed with ease.



Ballscrew & Reducer

X, Y, Z axis - linear motion

C5 class Ballscrew applied

The higher Ballscrew's precision level, the better the ability to land on the target. While most companies use C7 class BallScrew, however M AI° uses the higher grade **C5 class Ballscrew**.

A, B axis - rotational motion

Harmonic Drive applied

The Harmonic Drive adapts high-precision gear system that provides **excellent speed reduction capabilities and high torque transmission**, as there is no backlash when the gears mesh.



AI Calibration

AI Calibration, introduced by **GenCore** as the dental industry's first, is the key feature that enables the **M AI°** to offer consistent machining results.

AI Calibration accurately identifies various machining conditions, including jig installation, and applies them to the vector coordinate system.

This unique system can detect the subtle changes that are difficult to recognize, such as those occurring during the jig attachment process, ensuring consistent machining precision in all situations.

Through AI calibration, the M AI° already machined the implant connection part.

Therefore, **it offers quality that matches or exceeds that of CNC machining**, particularly in complex milling operation such as handling multiple slots of various Ti. Pre-mill blocks simultaneously which requires an exceptionally high level of precision.



The process of AI Calibration is fully automated, and the M AI°'s UI is designed to be user-friendly. These characteristics make the machine easier to use for novices.

AI Calibration provided by M AI° would minimize the potential issues, both large and small. This significant advantage will bring consistent and accurate machining, allowing the user to achieve efficient and stable results.



After assigning a scenario where an error occurs during jig installation, you can observe the AI calibration process and review the results by video.

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Full Closed Loop control system

All 5 axes of M AI° is equipped with a 400W servo motor made by globally recognized company 'YASKAWA'.

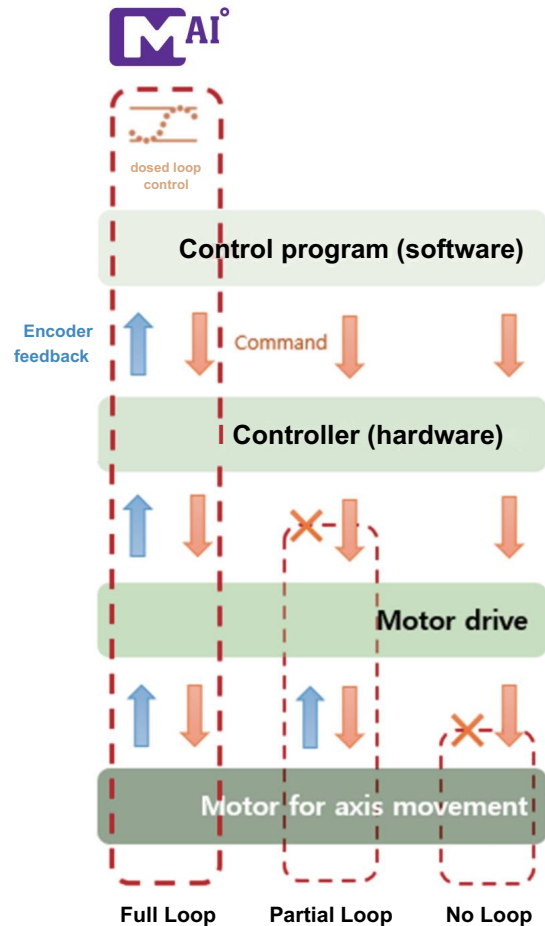
Also, This exceptional motor precisely controls the linear motion through C5 class Ballscrew and the rotational motion through Harmonic Drive.

Then, these extremely precise industrial components integrated into the M AI° are controlled by a high-performance controller.

Finally, GenCore showcases advanced equipment operation control capabilities through integrated control software, independently developed based on our technical expertise.

GenCore's sophisticated components operation control system 'Full Closed Loop Control System' defies comparison to other systems which only use the motor drive or controller.

Distinctiveness of this system will be experienced firsthand when performing high-precision dental prosthetic machining tasks, such as for **implants or bar bridges**.



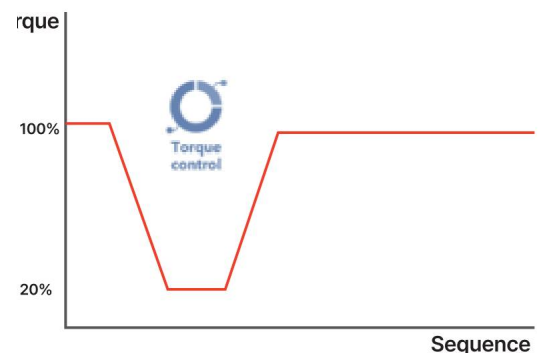
Safe mode

The intelligent torque control system of the M AI°, applied for the first time in the dental industry, features a 20% reduction in driving power when the door is opened during equipment operations such as calibration.

Additionally, if sudden damage that exceeds the standard is detected during machine operation, the machine will be immediately suspended to prevent further accidents.

M AI°'s Smart Torque Control System can proactively prevent various potential risks in different situations. This system will enhance manufacturing efficiency and avert possible accidents from occurring during machining.

This feature reflects our design intent for M AI°, with the safety of both the user and the machine as the highest priority.



THE FIRST
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Machine Specification

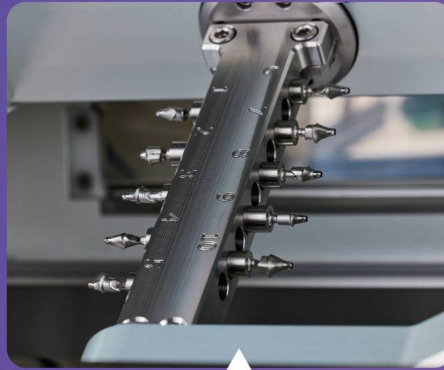


Milling Type		Compatible with both wet and dry operations
SIZE (W x D x H)	Machine	607 x 768 x 900mm / 23.90 x 30.23 x 35.43 inch
	Table	607 x 768 x 810mm / 23.90 x 30.23 x 31.89 inch
Weight	Machine	135kg/297.621b
	Table	70kg /154.32 lb (80~90kg with full option included)
Spindle	Capacity	DC 1.28kw
	Max. rotation	60,000 RPM
	Ave. Torque	24 N/m (S1, IEC 60034-1)
Drive Axis		Simultaneous 5-axis
Motor		400W SERVO MOTOR (All 5 axes applied)
Axis operation control		100% Full Closed Loop Operation Control System
Axis operating equipment	X/Y/Zaxis	C5 Class LM Guide and Ball screw
	A/ B axis	Harmonic drive
Range of Drive Axis	X/Y/Zaxis	200mm / 256mm /130mm
	A/ B axis	+35° to -35° / 360° (Free rotation)
Tool Pocket		28
Monitor		13.3" LCD Touch monitor

Type of Jigs



C-Clam Jig
Ø98.5mm Disk



Premill Jig
#10 Slots
(5-axis machining)



Block Jig
#10 Slots
(5-axis machining)

Tool Configuration

4 types of Zirconia
4 types of Glass Ceramic
& Various type of Metal
and Advanced Tool

28 tools in total





**Address: Keumkang Penteritum IX Tower, 542-544ho, 46, Galmaesunhwan
-ro 166beon-gil, Guri-si, Gyeonggi-do, Republic of Korea(11901)**

Main contact number : +82 31-869-2394

Main contact phone number : +82 10-9339-3644

E-mail : sales_01@gencoretech.com