

- Chair side 5-axis digital terminal
- Dental lab 5-axis milling machine

## 2020 the third generation CAD/CAM Machine with latest technology

Applied for non-model restoration



5-axis CAD/CAM equipment, Core Technology powdered by Zotion

INTELLIGENT MACHINE, EASY TO OPERATE

Technology pioneer/ Industry standard leader

At the beginning of 2018, Zotion proposed the basic technical standards of the third generation dental milling machine in line with the idea of Developing before Producing:

1. With the widespread of the application of Industry 4.0 technology, digital communication technology should be used as the basic system architecture.
2. We advocate the people-oriented design concept and apply human-machine interaction system to optimize the advantages of the designing
3. The high stability and high processing accuracy of the machine should be the industrial standards. (Due to the spread of the mouth scanning technology in the dental clinics, moldless dentures repairing will become inevitable. Only the high-precision milling machines can meet the growing demand for high-quality CAD CAM restorations. The accuracy must be improved.)

4. The milling machine can be remotely operated so that we can provide remote maintenance .  
5. The milling machine should be combined with the new trend of the international brand of dental milling machines. The volume should be moderate and it should be portable. These standards are the new trend of the dental industry .

Mr. Wang Yuanwu led his research and development team, starting from the basic structure of the machine, and they focus on the practical application of human-computer interaction engineering. His team uses technologies such as Internet of Everything, remote operation, and network supporting as the design infrastructure of the machine, which optimize the stability of the whole system. Zotion has good cooperation with the leading companies in dental machine industry such as Panasonic Motors, Yaskawa Electric, THK, KHK, Blue Wave. These manufacturers provide their best products and technical support for Zotion new milling machine. Because each sub-component in the system of Zotion milling machine adopts advanced technology such as digital communication, the machine has excellent electromagnetic stability and the optimization of the space loss segmentation technology of the rotating shaft has achieved  $360^{\circ}/5 \times 10^{-7}$  (the first and second generation machines are  $360^{\circ}/104$ ), which is 1000 times higher than the old generation machines. And improved the control accuracy of the milling machine .

The drive shaft of the machine moves smoothly, and the vibration of the machine is small when the motion units are linked to process. The stability of the machine is significantly improved. The new machine structure is boldly innovated, and reduced the use of non-ferrous metals.

Thanks to the prospective vision of R & D of Zotion, the third-generation dental milling machine has high-tech and high-performance attributes. This five-axis machine is a new creation. It has witnessed the 10-year development of Zotion and it is the product of Zotion's 5 axis milling machine developing .

## PARAMETERS

Milling material	dental zirconia block,wax,PMMA,PEEK
The size of the milling material	98mm,98.5mm and the max thickness is 80mm
The max speed of XYZ axis	Z axis 4000mm/min XY axis 6000mm/min
The max speed of the spindle	6000-60000 rotation/min
The angle of the axis	A axis+ -360° B axis : +25 -115 °
The type of milling burs	auto milling burs installation
The amount of milling burs	8( 12 max)
The size of milling burs	diameterΦ 4*56mm
Controlling Instruction set	Nc code
Interface	USB 2.0, 100M Internet access
Vlotage	220V +- 10%,50/60 Hertz
Power Consumption	Noise-pollution level
Noise-pollution level	Standby model : under 45 decibel ,milling model : under 70 decibel. The data was tested by UT353, the level of the noise varies when different material is used.
Install conditions	Indoor installation, altitude below 2000m, temperature :5-40 degree Celsius
The size of the machine	468×600×660mm
Weight	90KG

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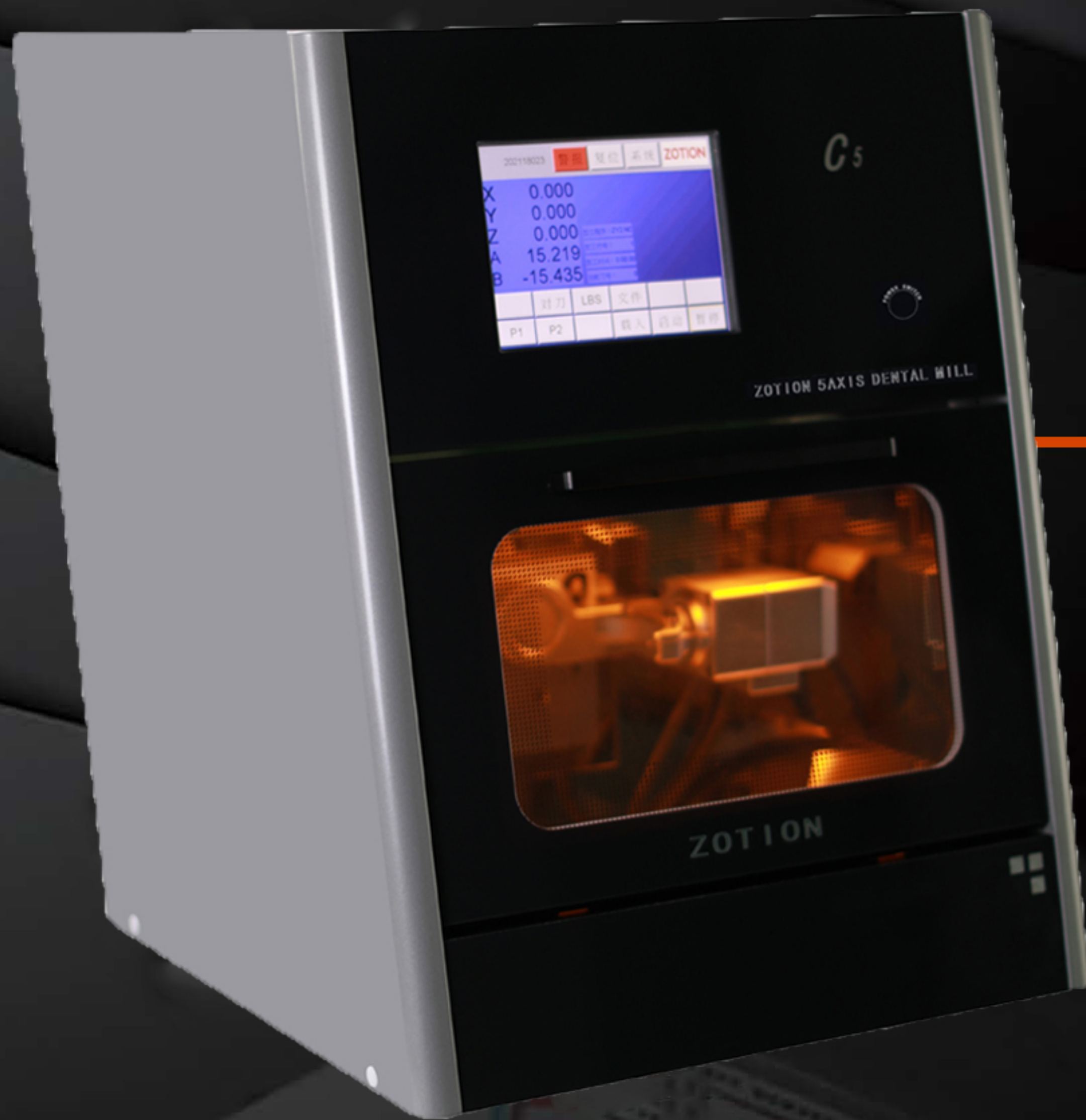
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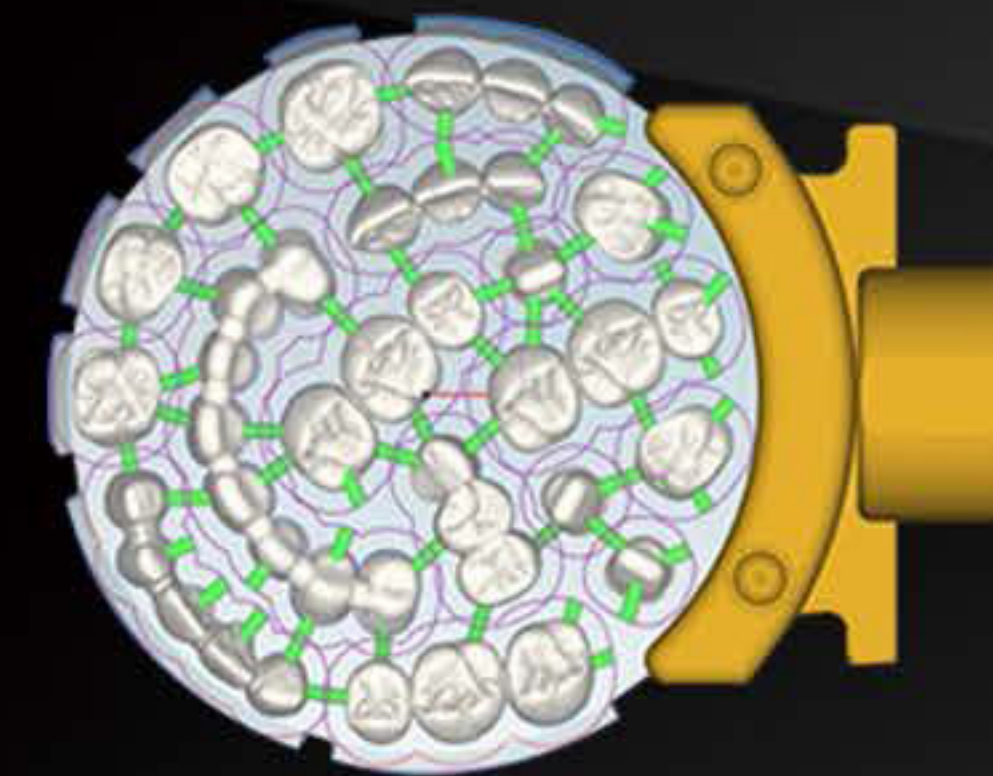
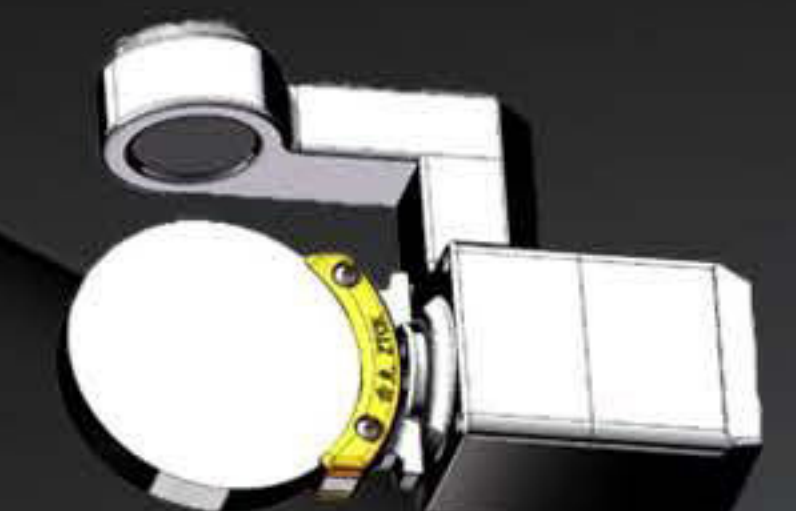
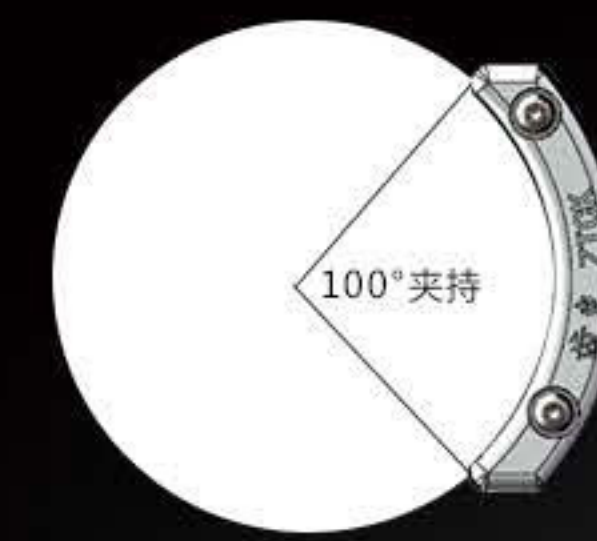
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## The patent of lossless holding technology



### Zotion 5-axis CAD/CAM



The new holder does not have to use second frame, which reduces manual sticking errors. With Zotion's new patented zirconium block 100% clamping frame, each zirconia block can produce 30% more dentures (truly maximize the usage of zirconia block)



The patented zirconia block pressing plate and the rubber coating can provide excellent and stable clamping force in the range of 100% clamping.



The rubber coating provides a stable clamping force, and also effectively buffers the compressive force of the zirconia block step. The zirconia block will not break after multiple clampings.

## New upgraded & easier to operate & more intelligent

### New design of 100° holder

Our machine has a patented 100% block holder. You can finish the installation by the adjustment of 2 screws. There is a patent rubber cushion on the holder which make the holding much more accurate and stable.



### Easy to clean

Our machine uses 304 stainless steel working chamber with a air flow structure and makes the dust cleaning much more efficient.



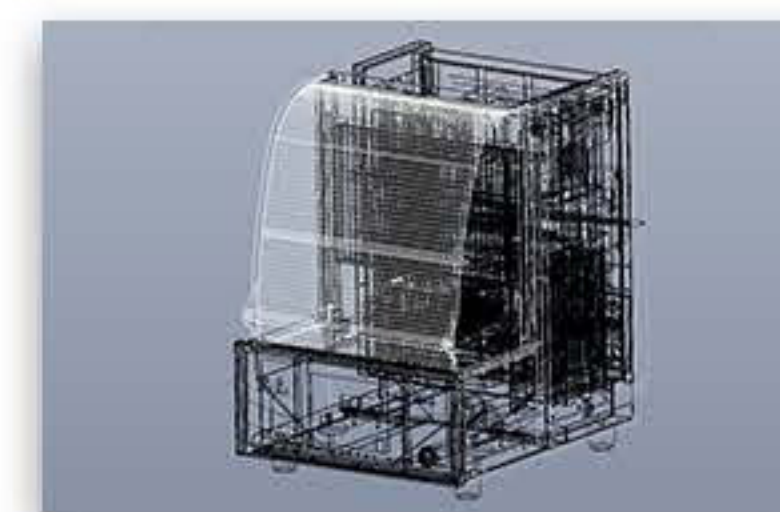
### Remote diagnosis

Offering online service through internet, which helps client to check and repair



### High performance intelligent milling machine

Our machine is a modern dental milling machine which has advanced components, the performance exceeds ordinary small five-axis equipment. The speed can reach 6000mm/minute. The machine can work without stops for long time.



### Human-Computer Interaction Interface

Simple and clear user friendly operation interface with one-click operation. The processing of the date can be done with your computer when you are using our new interface.



### Open system

Using the most advanced controlling system, which is 100% open to other equipments. Our milling machine is perfectly compatible with various scanners, materials and CAD / CAM systems.



## The development of Zotion milling machine



The 550 milling machine

The 550 milling machine, produced in 2012, is the first five-axis milling machine in the Chinese dental industry. The system of the machine uses analog signal controlling system. Subject to the limitations of the industry's technology at that time, although the performance is very stable, the disadvantage is that it is bulky and conservative in appearance. Many of these machines are still in operation now.



The second-generation milling machine N550

The second-generation milling machine N550, which was produced in 2017, is an attempt made with the careful consideration of modification. Influenced by the design of the old machine the N550 has some changes in the overall structure simplification. As a transition model of the first generation machine, the overall stability is acceptable.



The third-generation machine 2020

The third-generation machine 2020 Zotion 5A is produced in January 2020. Built on the first-generation machine's stable mechanism, it is a new-generation five-axis milling machine that has been completely independently developed. After optimizing the design and enhancing the stability of the structure, the weight of the new machine is only 90 kg. The smooth movement performance is significantly improved. Effectively reduce the impact of structural shock on machining accuracy.