Dream factory

Demonstration of the ultimate zero shaft vibration leading to unmanned operation

A.R.I. LLC

Cutting-edge manufacturing with the world's first patented product

Axis core blurring zero = Automatic balancer "零芯"

Category：Ideal Rotation
Title　：Realization of unmanned processing

When manufacturing 10 parts at a processing site, there is always a finishing margin left, but each finishing margin is always uneven and not constant. For that reason, we are finishing by inputting different correction values for each. This is the reason why unmanned processing cannot be realized.

We recognize that the variation in the finishing margin is caused by the vibration of the rotating part. In addition, due to various irregularities in materials, processing accuracy, and assembly, a load is applied along with rotation, and load fluctuations that occur over time cause imbalance, and vibration of the shaft center induces rotational vibration.

By making it possible to control various uncontrollable irregularities, it leads to the prevention of vibration loss in the rotating part, and realizes unmanned machining by preventing vibration and managing the dimensions of the blade without finishing with a correction value in one chucking. What made it possible is the automatic balancer "零芯".

Installation example of Auto Balancer "零芯" (There are various other installation examples)

machining tools

grinding machine flange

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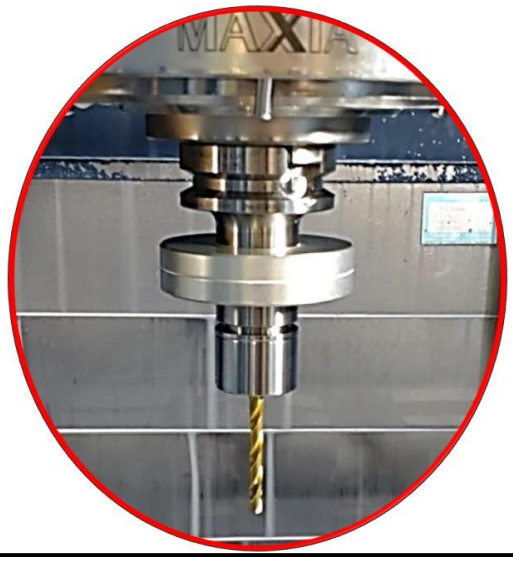
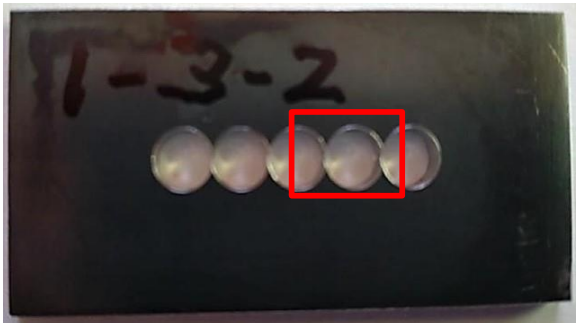
"Realization of unmanned operation = realization of zero shaft vibration"

Company M vertical machining center
Automatic balancer "零芯" tool
Φ6 drill attached photo



Φ6 3-Flute Carbide Drill
Outer diameter h6 finish
0 to −0.009 tolerance

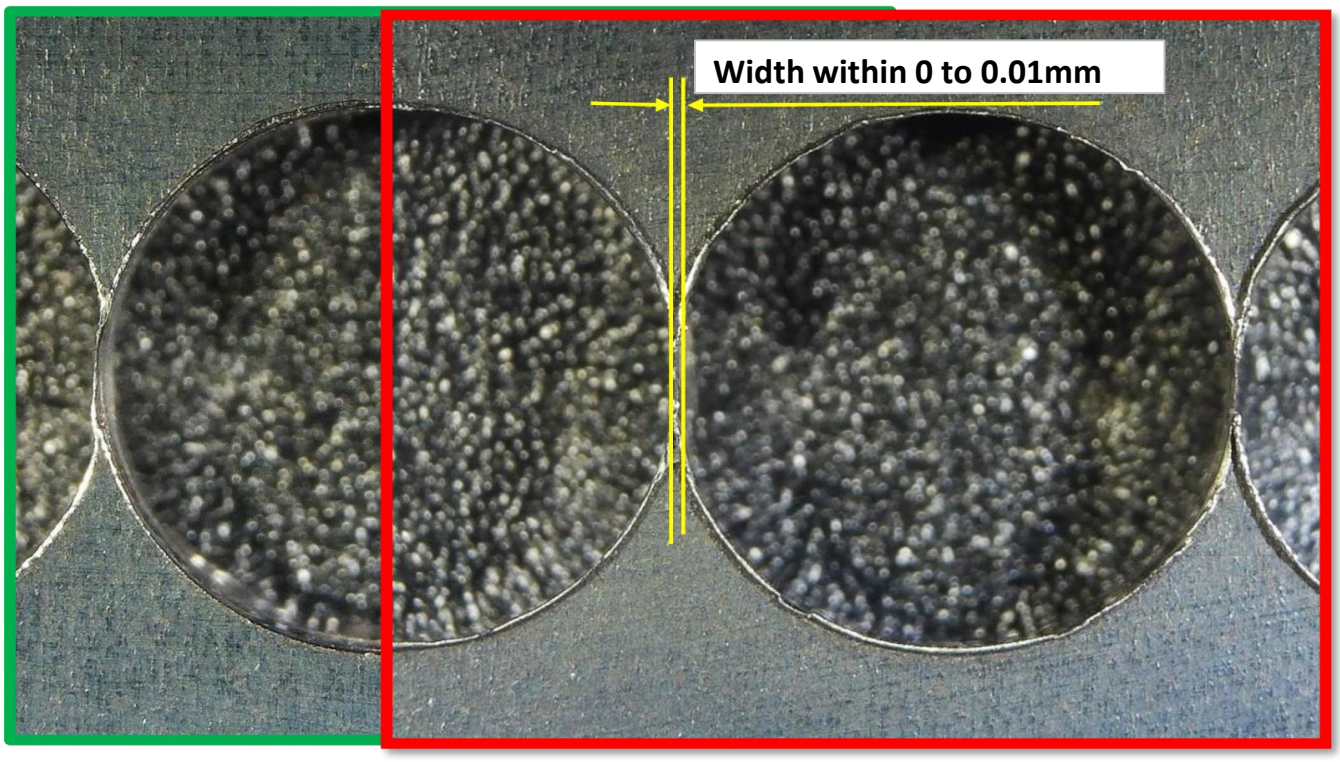
SS400 material
60mm × 30mm × 3.2mm



Machining with a Φ6 drill at a pitch of 6 :
0 to 0.01mm The wall between the holes remains

Enlarged view of surface

Enlarged view of the back



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Vertical machining center
manufactured by O company

Automatic balancer "零芯" tool
Electroplated whetstone
installation drawing

Process quartz glass at 6000 rpm 250 mm/min 0.01 mm with a diamond grindstone with a φ30 shaft