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Cnc ultra-high marble waterjet cutting machine with five-axis cutting head

Five-axis dynamic cutting head will typically add an A axis (angle from perpendicular) and an C axes (rotation around the Z-axis) on the normal axes on a water jet are named X (back/forth), Y(left/right) and Z (up/down).

五轴动态切割头是在原来三轴的基础上增加了一个角度补偿轴和增加了一个环绕 Z 轴的旋转轴。

The main purpose of five-axis cutting head is to compensate tilting degrees, to make the finished edge completely vertical, which the bottom surface geometries are shifted a certain amount to produce the appropriate angle and the Z-axis remains at one height. This cutting head has already performed excellently in many cutting fields to reduce processing cost and increase working efficiency. This can be useful for applications like weld preparation where a bevel angle needs to be cut on all sides of a part that will later be welded, or for taper compensation purposes where the kerf angle is transferred to the waste material - thus eliminating the taper commonly found on water jet-cut parts.

五轴切割机主要解决的水切割问题是在切割过程中进行斜度补偿,使斜度达到完全垂直的目的。五轴切割已在多个切割领域初见成效,极大地降低了加工成本,提高工作效率

The biggest angle of inclination is 10 degrees and can accurately adjust the degree of the rotation, the angular accuracy of rotation axis is 0.01 degrees.

最大的倾斜角度为 10 度,可以进行精细调节,旋转的角度精度为 0.01 度

Due to tilting degree compensation, the distance between cutting head and surface of workpiece need to be very accurate. The height positioning accuracy of five-axis is 0.01mm and cutting accuracy is 0.1mm, which can meet various cutting requirements.

由于这个倾斜角度的补偿，因此切割刀头与工件表面的距离需要非常的精确

五轴的高度定位精度为 0.01mm,切割精度为 0.1mm,可以实现多种切割需求。

In the marble matching process, water jet cutting with a five-axis cutting head design is simply amazing. There is a more delightful result in marble pattern cutting. When the tilt angle of cutting head is the biggest 4 degree, the kerfs section will change a lot. When two pieces of cutting parts are matching together, the top surfaces have no aperture but the one of bottom surfaces is big. In this way the twice polishing producer by manual will be saved, which reduces the processing cost and enhances the working efficiency. With this improved five-axis dynamic cutting head design, it is no longer a difficult technique in marble matching. It made traditionally complex marble matching an easy job. The quality of marble pattern has had a great increase and the making of pattern has no longer been a very difficult technology at the same time. If only you had a five-axis dynamic water jet marble pattern cutting machine, the complex marble pattern production would soon come true.

五轴精密切割数控超高压水切割机在大理石拼花加工过程中有着更加令人可喜的效果。当切割时刀头的倾角度为最大的 4 度时，切割后的切口断面发生了巨大的变化。当两块切割完成的图形在进行拼接时呈现上表面没有缝隙，下表面缝隙较大的情况。通过五轴，这里面省去了原来需要手工二次打磨的工序。降低了加工成本提高了加工效率。更重要的是提高了拼花的质量，制作拼花再也不是一个非常难的技术了，只要你拥有一台五轴动态切割机就能实现复杂的拼花的生产了。

The same methodology is also applicable in glass straight-hole drilling. As an example, when piercing holes in glass, it is not necessary to decrease the cutting speed in order to get straight holes. The ideal effect can be achieved without changing cutting speed, and that is highly beneficial!

这种方法也可用于玻璃直线钻孔。比如在玻璃上钻孔的时候，无需降低切割速度为了获得直孔。不改变切割速度可达到理想的效果，这是非常有益的！