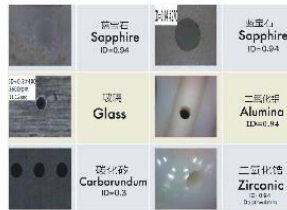


Applications
 Processing plane, groove, all kinds of form surface (such as spline, gear and thread) and special surface of mould.
 Application area: machining industry, machine tool equipment manufacturing
 Application occasion: manufacturing enterprise, universities and colleges, scientific research institution, mechanical equipment transformation industry
 Material: hard or brittle materials like ceramic, glass, quartz, silicon, jewelry, zirconia, Alumina, Ferrite, etc...

应用：
 加工平面、凹槽、各种形状曲面(如花键、齿轮、螺纹)和特殊模具表面。
 适用范围：机械加工业、机床设备制造。
 应用场合：制造企业、高校、科研机构、机械改造行业。
 材料：高硬度脆性材料，比如陶瓷、玻璃、石英、硅、蓝宝石、氧化铝、氧化锆、铁氧体等。



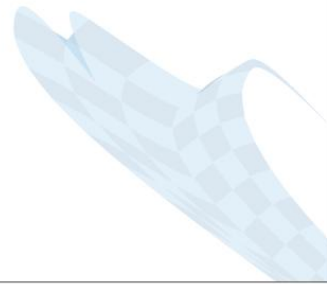
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Altrasonic
 杭州浩索超声波科技有限公司
 Hangzhou Altrasonic Technology Co., Ltd.

旋转超声波辅助加工设备
 Rotary Ultrasonic Assisted Machining Equipment



Rotary Ultrasonic Assisted Machining Equipment
 旋转超声波辅助加工设备



Ultrasonic machining is a new technology of processing method, which can enhance the milling performance by high frequency micro vibrations. Ultrasonic milling device comprises a generator, oscillator and horn.

Ultrasonic oscillator is the part which converts the electricity energy from the generator into mechanical energy. And then pass the energy to the workpiece. Ultrasonic oscillator can be designed according to the requirement of actual application.

超声加工是一种新的加工工艺，通过在普通铣削加工过程中增加高频微振幅来改变加工性能。超声波铣削装置由数控电箱、换子和工具头组成。

超声波换子是将数控电源输出的电能转化为机械能，然后再传递给工件的能量采集部分。超声波换子可根据实际应用场合的基本要求要求进行设计。

Ultrasonic Milling Machine

Technical Parameters:
 Product mode: BT40 tool holder
 Working frequency: 20KHz/40KHz
 Amplitude: 10um or more
 Speed: 3000 r/min (more than 3000r/min
 Need do dynamic balance)
 Matching tool: carbide end mill head
 Φ1-Φ13mm; disk cutter Φ50;
 Power: 500w

超声波铣削装置

参数：
 连接机床刀柄：BT40刀柄（可定制）
 频率：20KHz/40KHz
 振幅：10um以上（可调）
 转速：3000r/min（3000r/min以上需要调节动平衡）
 可配刀具头：Φ1-Φ13mm;
 盘形铣刀Φ50。
 功率：500W



Ultrasonic Drilling Machine

Technical Parameters:
 Product mode: HSK A63 drilling machine handle
 Working frequency: 20KHz/40KHz
 Amplitude: 10um or more (adjustable);
 Speed: 3000 r/min (more than 3000r/min need do dynamic balance)
 Matching tool: carbide drilling head Φ2/Φ3/Φ4/Φ5/Φ6mm;
 Power: 500w

超声波钻孔设备

参数：
 连接机床刀柄：HSK A63（可定制）
 频率：20KHz/40KHz
 振幅：10um以上（可调）
 转速：3000r/min（3000r/min以上需要调节动平衡）
 可配刀具头：Φ2/Φ3/Φ4/Φ5/Φ6mm
 功率：500瓦



Different models of connectors applied for various machine tools
 BT/HSK/ISO/CAT and etc.
 不同机床上有不同型号的连接头，比如有BT/HSK/ISO/CAT等，可定制加工。

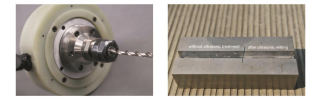


The advantages of ultrasonic machining over ordinary machining:

- Virtually any hard and brittle material can be machined.
- Little heat is produced, Low macroscopic cutting force.
- Since the motion of the tool is up-and-down vibration rather than rotation as in traditional machining, the holes cut are not limited to circular shapes but can be any shape. Custom "cookie cutter" tools can cut complicated shapes.
- Good surface finish and structural integrity is obtained with high efficiency.

超声加工比普通加工的优点：

- 几乎任何硬脆材料都可以加工。
- 宏观切削力小，产生的热量少。
- 由于刀具的运动是上下振动，而不是传统的加工中的旋转，所以切削的孔不仅限于圆形，而且可以是任意形状。俗称的“曲奇切割机”可以切割复杂的形状。
- 表面光洁度好，结构完整，效率高。



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