



UNDERSTANDING 'DRILLING' EDM

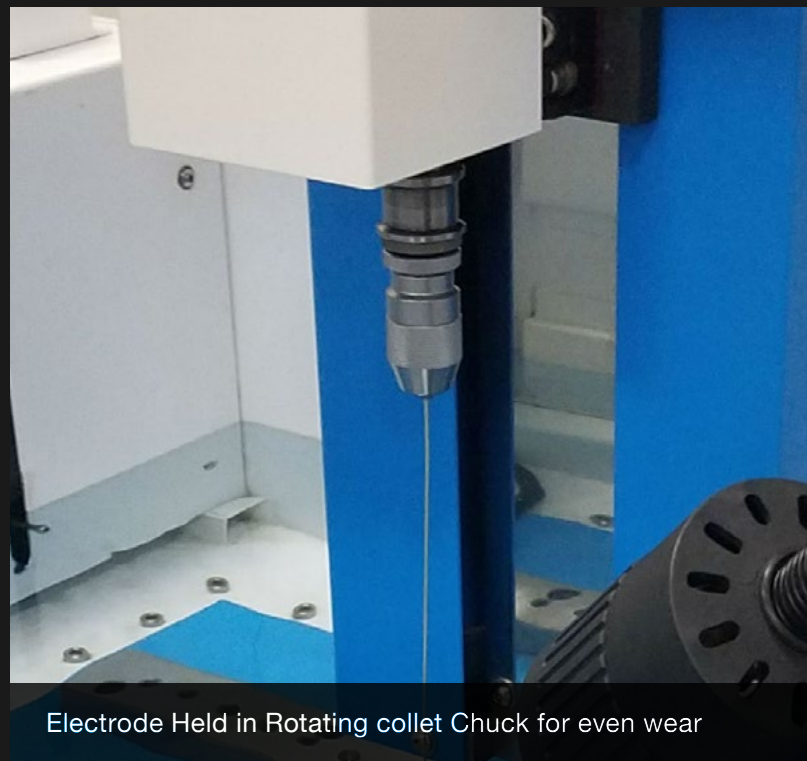
Hole Popper's

The Principle of the Process

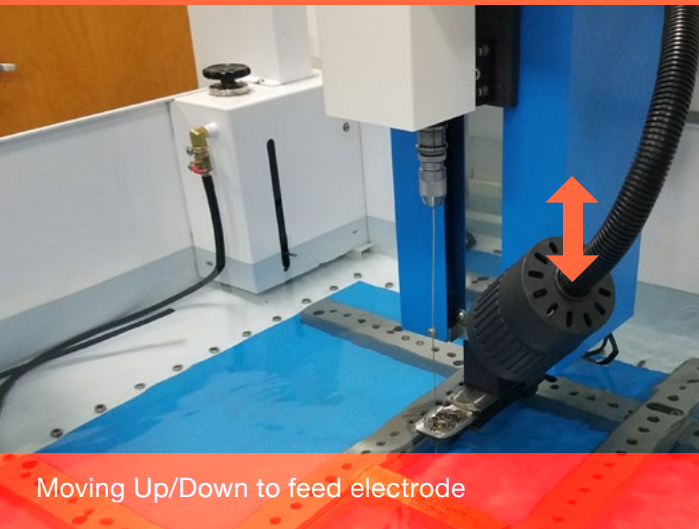
Electrical Discharge Machining Hole Drilling is a unique and quick way to produce semi-accurate holes in conductive materials regardless of their hardness at relatively high speeds. As the EDM process uses electricity to vaporize material, it reduces particles of hardened conductive materials to mere dust. Just like other EDM processes it is necessary to use a flushing liquid or “dielectric” in order to wash these eroded particles away from the cut. In order to achieve this it is necessary to deliver the flushing liquid to the bottom of the hole being drilled (or eroded), thus it requires a drilling electrode with a thru-hole or better described as a “Tube.” The dielectric used can be as common as deionized water (to control the erosion process) or other combinations of chemicals such as Vytol.



Basic EDM Drill



Electrode Held in Rotating collet Chuck for even wear



Moving Up/Down to feed electrode



Pipe/Electrode Guide

These EDM Drilling Tubes are typically a low-cost material yet highly conductive such as brass or copper and copper alloy. The hole can be roughly 200-250 times smaller than the effective drilling depth. Typical hole diameters range from 0.010" to 3/16". There are applications and systems available for 5-axis machining that would produce holes at varying angles depending on the application.

Common uses for this process include Broken Tap/ Drill/Reamer Extraction, Wire EDM Hole Starting, and Cooling Holes in aerospace engine components among many other more specific applications.

Common industries for this technology include aerospace, energy, general machine shop, tool & die, cutting tools, mold making/repair, and medical/healthcare.

[Click here to read more in-depth about Hole Drilling EDM Machinery](#) from Carl Sommer of Reliable EDM.



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