OMEGADRILL

Frequently Asked Questions

Q: How is it possible to actually cut a HSS tap that is hardened to around 65 Rockwell C?
- Well, it's not easy but the Omegadrill can actually do it! Omegadrills are produced from revolutionary grade of sub-micron carbide produced to an exact formulation that results in a carbide grade that is extremely durable to handle the abuse of drilling through something as hard as a tap. We then grind a very unique point geometry on Omegadrill's - that gives the drill the strength to cut all the way down through the tap.

Q: What type of equipment is needed to use Omegadrills?
- Omegadrills are designed to be used on either a Machining Center or a Milling Machine. The most common machine used is probably a "Bridgeport" type Knee Mill. In some cases, a magnetic drill press can be used – and it will probably need to be run at maximum RPM. Some people with extra-large biceps have used the two largest sizes of Omegadrills with a portable hand drill. If using a hand drill is the only option, then run at least 1,200 RPM and keep and much feed as possible on the Omegadrill without allowing any deflection.

Q: If Omegadrills can cut through a broken tap then what other difficult drilling operations can they do?
- Omegadrills have been used to remove broken E-Z Outs / Screw Extractors, broken twist drills, broken / seized dowel pins, and of course they can be used to drill out broken screws and bolts without any problems. Omegadrill's can also be used to drill holes in extremely hard materials such as stellite, chilled cast iron, hardened steel and even ceramic tiles. We even had a customer tell us he used an Omegadrill to drill a hole in a granite surface plate!

Q: Are there any special techniques for using Omegadrills?
- It's good to keep in mind that removing broken taps is not an easy thing to do.
The two most critical applications factors are....

1) Make sure the Omegadrill starts off drilling straight. Omegadrills are solid carbide, a material that does not handle very much deflection. In order to start off drilling straight the Omegadrill needs as flat a entry surface as possible. This is why we recommend "knocking" the broken top off the tap and spotting the tap with as large an Omegadrill as possible. If the top of the tap is down inside the hole, use a small diameter carbide burr, or a small endmill to cut away the jagged top of the broken tap.

2) Solid carbide tools work best with as rigid a set-up as possible. Many people find the drilling works best on a Knee Mill if they lock the quill and feed the drill using the knee handle. On a machining center, use the hand wheel / pulse generator and feed the drill using the lowest setting possible (probably .0001") and feed with very steady and constant feed. If you're in a situation where you can only feed by hand with a quill, then tighten the quill lock slightly, to create some drag, and feed with steady and even pressure.