

## **What is an oscillating knife blade?What materials can I cut with an oscillating knife?**



### **What is a CNC Oscillating Knife Cutting Machine?**

Oscillating cutting machine is a CNC digital cutter machine equipped with an oscillating cutting tool. The oscillating knife tool cuts a wide variety of materials, but these materials must be flexible, soft or semi-soft. It is particularly effective for cutting softer and thicker materials such as sponge and foam materials, corrugated and sandwich board, rubber, felt,

non-woven, fabrics. The oscillating motion allows the blade to cut smoothly through these materials without dragging or tearing.

### **What is Oscillating Cutting?**

When oscillating cutting on the CNC digital cutter, the knife moves up and down at high speed. This oscillation allows the knife to cut through fairly thick material. The depth of cut varies and depends on the knife (its length and shape) installed in the oscillating tool. The oscillating or otherwise vibrating motion ensures clean and precise cuts, making it suitable for intricate shapes and designs.

### **What is an Oscillating [Knife](#)?**



An oscillating knife is a knife designed to be installed in a corresponding tool / knife holder on a CNC cutting machine. Oscillating cutting is mainly used on digital flatbed cutting tables.

Oscillating knives are made of solid tungsten carbide alloy. They have different shapes and designs depending on the manufacturers. Oscillating knives, which have a round blade shank, are mainly designed for installation in pneumatic oscillating tools and most often have a hollow to additionally be

secured with a bolt. Example: Aristo 07265, Esko Kongsberg SR6313. But more common are oscillating knives with a flat shank. Example: [Zund](#) Z20, Z29, Z60

### **What Materials Can Be Cut with an Oscillating Knife?**

There are 2 types of oscillating cutting tools: Electric oscillating cutting tool and pneumatic (air driven) oscillating tool.

The electrical oscillating cutting tool is ideal for cutting soft and medium dense materials up to 28 mm thick. Materials to be cut with EOT: sponge and foam materials, corrugated cardboard, leather, woven, non-woven materials, displays.

Compared to electric oscillating tools, air-driven oscillating tools are more powerful and therefore designed for cutting denser, stiffer and thicker materials up to 50 mm thick. Materials for cutting with POT: sandwich cardboard, foam, corrugated cardboard, rubber.



### **What is a Tangential Knife?**

Knives T 36 T45 T60 for [Summa](#) cutting plotter - Buy online at SollexDigital cutting machines equipped with a tangential cutting tool allow the blade to be controlled, namely guided to the desired cutting direction according to a preset design, with the ability to lower and raise the cutting tool with the blade vertically when it is necessary to change the position of the blade or the necessary rotation. The tangential cutting tool lifts the knife out of the media, rotates it, and lowers it back into the

media. Since the cutting tool is steerable, there is no need to offset the blade as in the case of drag knives.

The tangential cutting technique is excellent for cutting complex patterns, small details, and letters. The tangential knife excels in precision and is capable of producing very accurate and clean cuts, especially in designs with sharp angles and detailed work.

Most commonly, tangential knives cut vinyl film, reflective film, sandblast, labeling and stickers, paper and cardboard in the production of promotional materials, signage, decals and other products.

Tangential [knives](#) are also made of tungsten carbide and most often the depth of cut is less than 10mm. Examples of tangential knives: T36, T45, T60.

### Difference between an Oscillating Tangential Knife and a Tangential Knife

At first glance, one might think that these are the same knives, but the oscillating tangential knife and the simple tangential knife have differences. From its name, the oscillating tangential knife provides in addition to the properties inherent to the tangential knife also a vibrating movement, and also combines the property of the tangential knife - lifting the knife from the cutting material, rotating and changing the trajectory of the

cutting [knife](#), lowering it back into the material and cutting along a defined path. Oscillating knives are better for thicker, softer materials, whereas tangential knives are ideal for materials that require sharp, precise cuts.

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