

Aerospace

Kennametal Introduces the FBX Drill for Faster Aerospace Machining

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New modular drill delivers maximum metal removal rates for structural components

Kennametal has introduced the **FBX drill** for flat-bottom drilling of structural aerospace parts. The patented FBX drill delivers superior stability and up to 200 percent higher metal removal rates when machining high-temperature alloys, stainless steel, and other materials. The new modular drill is the critical first step in a three-part tooling concept—including the HARVI™ Ultra 8X and the HARVI™ end mill series—specifically designed by Kennametal to decrease cycle time for these types of applications.

Quickly removing large amounts of material remains a challenge for these types of components. Traditionally, the first process step is to enter the material by using ramping techniques. This is a time-consuming process and low metal removal rates are the norm.

“The **FBX drill** dramatically speeds up the machining process by combining the advantages of a flat bottom drill and a z-axis plunge mill. The flat bottom design eliminates radial forces while four effective cutting edges provide increased feed and speed rates, leading to up to 200 percent higher metal removal rates than traditional ramping techniques and freeing up capacity for aerospace manufacturers,” says Georg Roth, Product Manager, Kennametal.

Once the drill has shaped the basic structure of the component, roughing and finishing with indexable and solid end mills are the next process steps.

Unique Design Features

Four effective cutting edges provide stability in challenging applications like chain hole drilling, while large chip flutes ensure a hassle-free chip evacuation. Supported by a series of exchangeable coolant nozzles to help eliminate heat buildup, the drill point is characterized by a center insert with two effective cutting edges and chip splitters for maximum feed capabilities. The drill bodies are available in diameters 60, 75, and 90mm, and come in a long and short version (150mm and 95mm). This modular drill connects to Kennametal’s bolt taper flange (BTF) mount adapters, available in various spindle connection styles.



The unique design of the FBX flat bottom drill directs cutting forces into the machine spindle, minimizing deflection while increasing tool life and metal removal rates.

Versatility and Performance in One Tool

The FBX is ideally suited for drilling into solid, chain hole drilling and plunging in a variety of materials such as high-temperature alloys, stainless steel, and steels and cast irons. It is equally as versatile and high performing in similar applications for the general engineering and power generation markets.

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