

VFFDRB END MILLS - WITH NEW HIGH PRODUCTIVITY GEOMETRY

Duplex Corner Radius

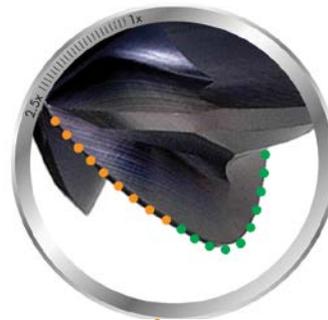
Developed to reduce cutting forces and improve performance when machining hardened steel, Mitsubishi has now launched its innovative new VFFDRB line of end mills. The new Duplex Corner Radius VFFDRB end mill series for high feed machining of hardened steel incorporates a unique geometry that combines a large and a small radius on its cutting edge to deliver unparalleled performance and tool life.

This newly developed geometry on the end cutting edge thins the chips that are produced during cutting to help deliver the ideal combination of extended tool life and increased feeds and speeds. Furthermore, by creating fine chips VFFDRB end mills reduce cutting forces in the radial direction, which reduces both tool vibration and deflection. The result is a smooth cutting action with improved efficiency when machining hard and abrasive materials in the hardness range from 50 to over 60HRC.

Performance

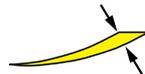
The rigidity and performance efficiency of VFFDRB makes it particularly suitable for high feed, long overhang machining of materials above 50HRC. The end mills are available with either four or six cutting edges and have a 40 degree high helix angle. In addition, this new series is designed with a short cut length that further enhances rigidity and minimises vibration. Each size has a relieved neck for improved reach and is available in diameters of 3, 4, 6, 8, 10 and 12mm with an overall length from 60 to 110mm, with shank diameters from 6 to 12mm.

Duplex Radius



**Lower cutting force
reduces vibration**

Thin Chips



**Duplex Corner Radius Geometry for
the iMX series. The iMX-C4FD-C type.**



For end users requiring a larger diameter, Mitsubishi has added VFF geometry to its iMX exchangeable head series. The innovative screw type iMX system has been developed specifically for heavy duty machining with outstanding rigidity to reduce the vibration when high feed cutting. This enables the VFF range to be extended with indexable diameters ranging from 10 through to 25mm. The interchangeability of the iMX series reduces tool inventory costs and increases versatility by being able to utilise a single shank with many different head types.

Versatile

Ideal for milling pre-hardened steel, alloy steel, carbon steel, alloy tool steel and mild steel at feed rates of 150mm/min with a radial depth of cut at 50% of the full diameter, the VFF line drastically improves machining performance.

During a machining trial on tool steel with a 6mm diameter tool at 7xD overhang, conventional solid carbide tools exhibited edge chipping after 50m of machining whereas the exceptional new Mitsubishi VFF Series demonstrated normal wear characteristics even after 200m of cutting. This ability to increase tool life and feed rates because of its unique construction emphasises the effectiveness of this exceptional new milling range when compared to conventional corner radius end mills.

