

COOLSTAR - NEW THROUGH COOLANT VQ END MILLS

VQ, the top of the range series of end mills from Mitsubishi Materials has recently been expanded to include 2 new types. These latest additions include a square corner and a corner radius type in diameters 10 - 20mm. The main feature of these new types are the multiple internal through coolant holes. The existing range of VQ end mills are designed primarily for high performance machining of difficult to cut materials such as titanium, Inconel and stainless steels, but the addition of the through coolant holes to the new types provides highly effective resistance to welding, especially during full slot trochoidal milling operations. Standard milling operations also gain in tool life and performance due to the spiral arrangement of the coolant holes.

Coating

VQ solid carbide end mills have been treated with an innovative (Al, Cr)N group MIRACLE SIGMA based coating which delivers substantially improved wear resistance. The surface of the coating has been given a smoothing treatment resulting in better machined surfaces, reduced cutting resistance and an increased chip discharge capacity. The extreme heat and oxidation resistance and lower coefficient of friction of the new coating means this next generation of end mills can maximise performance and help prevent tool wear even under the harshest of cutting conditions when machining difficult to cut materials.

Anti Vibration Geometry

The use of irregular pitch flutes with varied helix angles significantly reduces the occurrence of vibration that leads to an increase in reliability and productivity. In addition to the irregular helix design, flutes with a wide chip pocket for improved chip disposal is used across the range. This feature is especially useful when full width slotting.



ZERO- μ Surface

With the unique ZERO- μ Surface, the cutting edge retains its sharpness. While previous technologies often resulted in diminished sharpness, the ZERO- μ Surface achieves both smoothness and sharpness, as well as longer tool life.

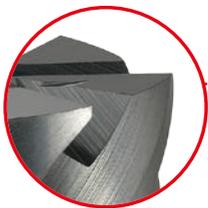
Improved Gash Shape

The VQ series employs a 2-stage gash that has been optimised to improve chip flow and to help chip dispersion. This helps to reduce loads during full width slotting.

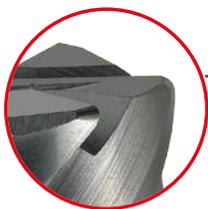
2 new types

Ø10 - Ø20 End mill, 6 flute, medium cut length, irregular helix, multiple internal coolant holes

Ø10 - Ø20 Corner radius end mill, 6 flute, corner radius 0.5 - 4.0, medium cut length, irregular helix, multiple internal coolant holes



VQ6MHVCH
 • **Square corner,**
 6 flute, Ø10 - Ø20,
 through coolant



VQ6MHVRBCH
 • **Corner radius,**
 6 flute, Ø10 - Ø20
 Radius 0.5 - 4.0,
 through coolant

