

ASPX SERIES - NEW HSK SHANKS AND ADVANCED MP9140 GRADE FOR TITANIUM ALLOYS

Mitsubishi Materials has adapted to the latest recognised approach to milling titanium alloys with its shell type cutter. The ASPX design parameters focused on combining a cutter body with its own beneficial features of overall rigidity and a robust construction. However, robustness has combined with precision through irregular flute spacing and insert pockets that have each been individually calculated and precisely positioned to provide the best possible cutting performance and anti-vibration control.

To emphasise the strength, high power and large metal removal capability, the ASPX series has recently been expanded with two new, integrated HSK one piece shank types.

The new types are an HSK-A100 and an HSK-A125, both with 80 mm cutting diameter bodies. Both sizes feature the all important through coolant facility. The HSK shank encompasses a central through coolant channel that feeds internally to each insert pocket thereby providing coolant directly onto the insert face. This direct coolant approach meant that feeds rates can be reliably maintained and provide exceptional tool life even under the most demanding of deep side and slot milling applications.

New Insert grade

The ASPX series now has a new advanced grade, MP9140, to add extra performance and reliability. MP9140 is made from an enhanced super-fine cemented carbide substrate for increased toughness that also retains hardness for longer tool life. The latest technology using (Al-Ti)-N coating method ensures the optimum wear and heat resistance. The combination of these properties provides excellent fracture resistance and a very low coefficient of friction for class leading welding resistance necessary for the successful machining of modern titanium alloys.

The cutting edge geometry features a high rake edge to



ensure a smooth but strong cutting action. In combination with a JM edge honing that enhances the low cutting resistance, the inserts provide all the features necessary for reliable, high performance machining.

Roll-into Machining Method

The ASPX is able to utilise the positive effects of the modern roll-into cutting approach. The roll-into cutting approach controls the sharp increases in cutting loads and prevents sudden chipping of inserts. Also, when utilising a climb milling direction of cut, roll-into has proven to be highly effective at almost eliminating the usual vibrations associated with the conventional direct approach. Roll-into provides extra resistance to chipping by producing chips that taper to zero thickness at the exit point.

Availability

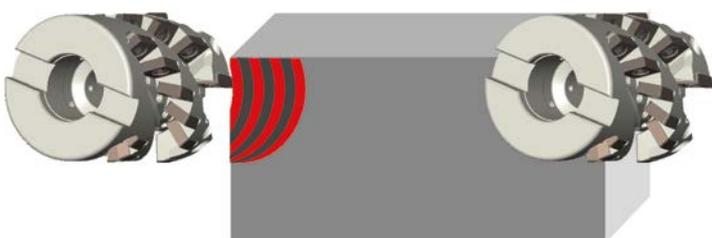
The ASPX cutters are available in a shell type in sizes $\varnothing 50$, $\varnothing 63$ - $\varnothing 80$ mm and the in HSK shank type as a $\varnothing 80$ but in two different HSK sizes of 100 and 125.

ASPX MP9140 insert grade

G class bottom face insert with corner radii R0.8 - R6.35 mm
G class peripheral inserts with 4 economical cutting edges.

DIRECT APPROACH METHOD

Cutting load increases suddenly. High risk of chipping



ROLL INTO CUTTING APPROACH METHOD

Cutting load increases smoothly

