

## ARP - HIGH ACCURACY ROUND INSERT CUTTERS

For machining difficult-to-cut materials with a high level of accuracy and efficiency, Mitsubishi Materials has expanded its ARP series of round insert, high runout accuracy milling tools.

ARP is ideal for machining titanium and other heat resistant alloys as well as stainless steels that are commonplace in the aerospace and power generation industries. The ARP series has delivered tool life improvements and significant cutting force reductions when compared to other products.

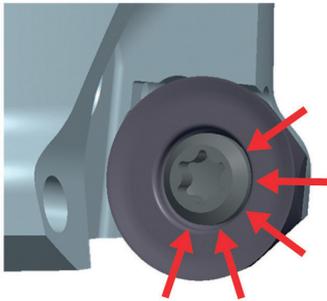
### Accuracy and strength

These significant gains have been achieved by developing an extremely accurate insert seat pocket that improves radial runout accuracy by 25% when compared to conventional products. This also realises minimal change of run-out accuracy when indexing the inserts. Furthermore, ARP tool bodies deliver an exceptionally strong seating configuration that has two side location faces to prevent inserts from moving during cutting. This robust positioning is complemented by an innovative insert geometry design that has a special rake face to generate smooth chip flow and reduce cutting resistance. This development creates an even chip flow and directs the cutting forces towards the centre, the strongest part of the insert pocket.



carbide grade. Combining a smooth top surface of the Al-rich AlTiN coating layer, and a special cemented carbide substrate, makes MP9140 ideal for machining titanium and heat resistant alloys. In total, there are 4 different high performance grades that can be combined with several different chipbreakers to optimise the choice and cutting performance for a wide range of light, medium and roughing applications.

The ARP series is available with cutter bodies that include shell types in diameters 40 through to 100mm. These bodies offer coarse, fine and super fine insert pitches with a choice of 4 to 11 inserts per tool depending upon the selected diameter. For machining smaller surface areas and intricate forms, Mitsubishi also includes a shank type tool that is available in standard and long lengths for processing difficult to reach cavities. These standard and long reach tool bodies are offered in diameters 25, 32, 40 and 50mm with two to five inserts to meet a vast range of machining applications. In addition, versatile screw-in type tool bodies in 25, 32 and 40 diameters are also available.



**CUTTING FORCES DIRECTED TOWARDS THE CENTRE**

### Additions

A new grade and type of insert have been added to the range with 8 side seating faces that are ideal for use at lower depths of cut and can effectively double usage of the insert. The range of the traditional 4 side seating face inserts has also been expanded. These new inserts have an improved structure with a wider core and thickness to help combat sudden fracturing under heavy machining conditions. A new addition added to the range is MP9140, a new PVD coated



**OPTIMUM CHOICE OF 4 or 8 POSITIONING FACES PREVENTS ROTATION DURING MACHINING**



**Conventional      New**

**NEW INSERTS WITH A WIDER AND THICKER CROSS SECTION**

