



AEROSPACE

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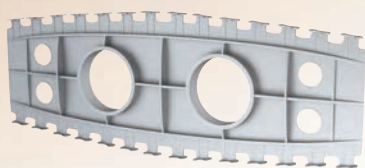
AEROSPACE



Mitsubishi Materials is constantly engaging ultra modern technologies in the research and development of cutting tools. Results of the research provide solutions for the ever increasing requirements of the aerospace industry.

AIR FRAME

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ENGINE

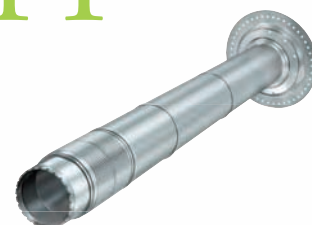
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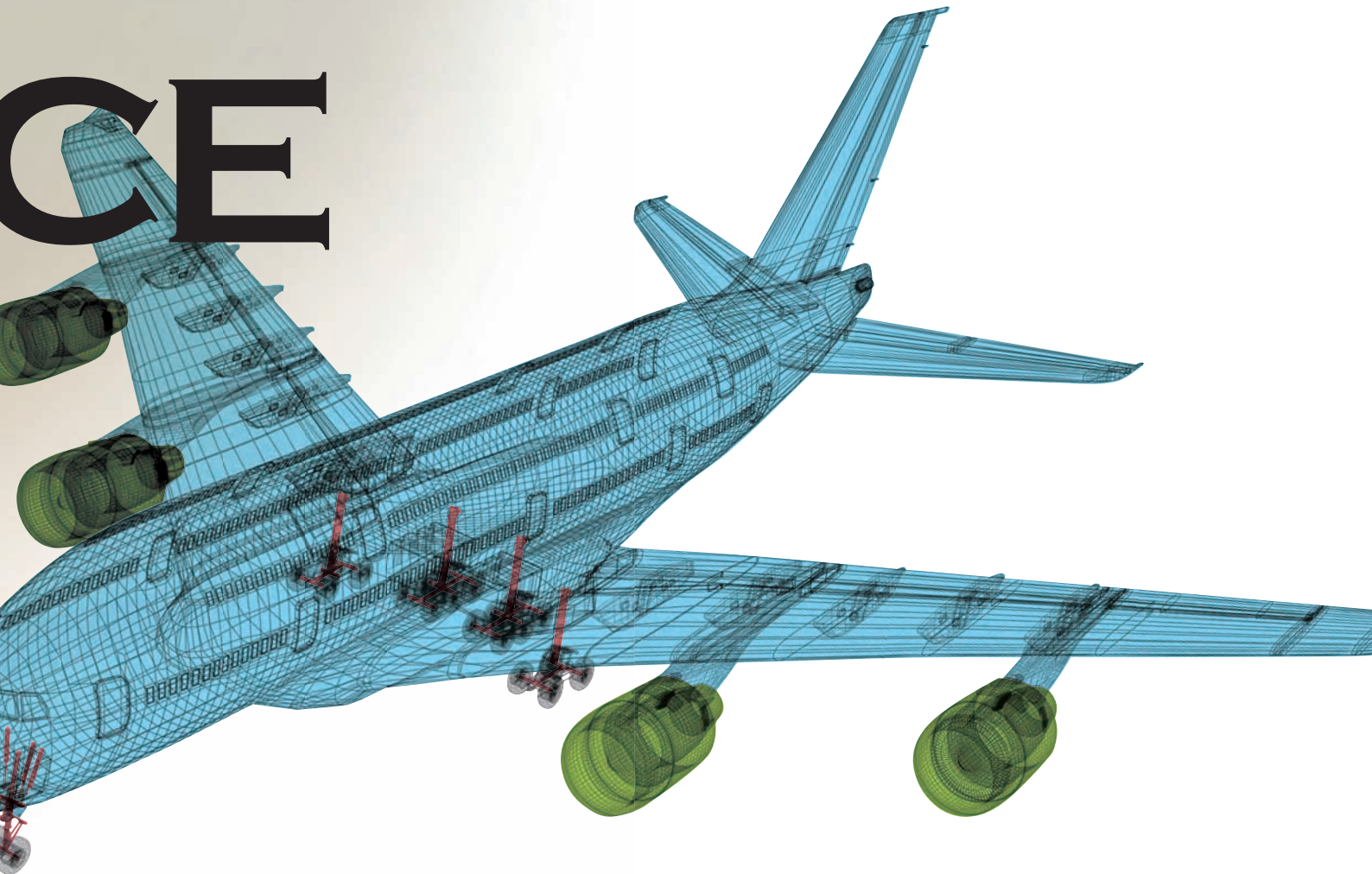
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CE



ENGINE

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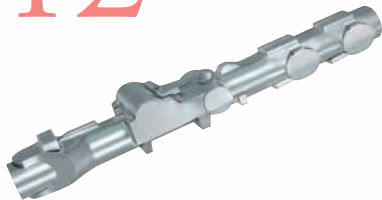


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LANDING GEAR

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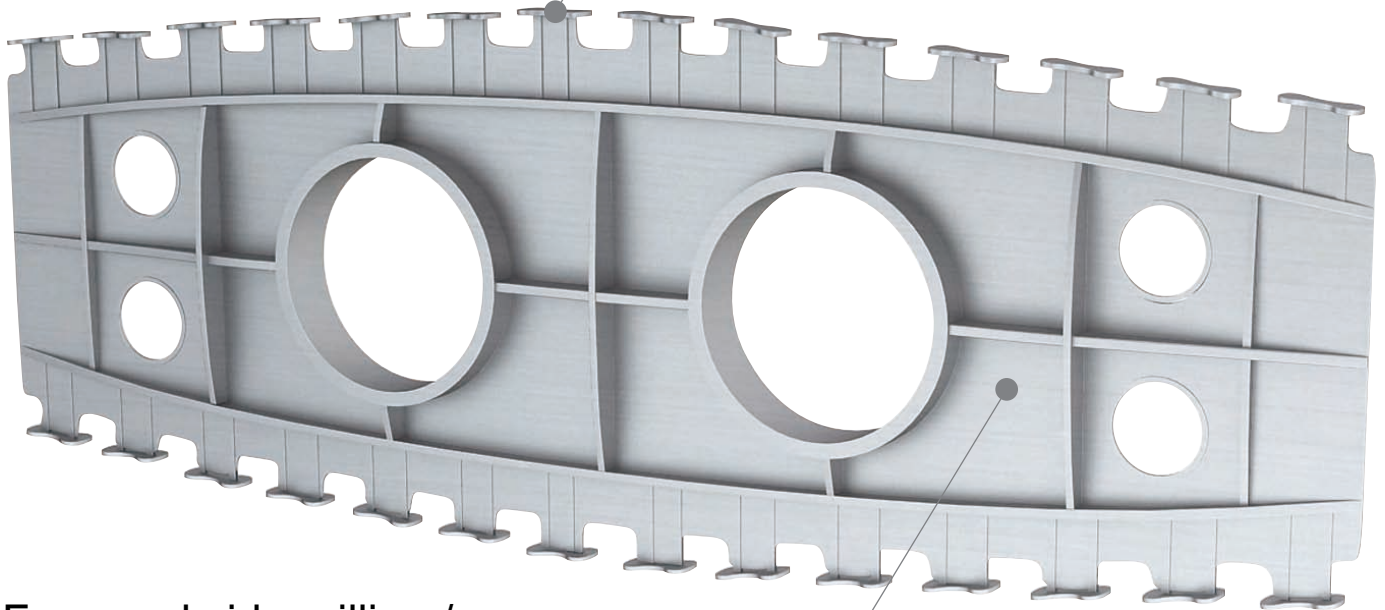
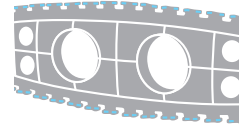


AIR FRAME

Work material [Aluminum alloy]

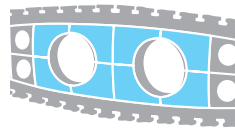
Drilling

Solid carbide drills with sharp cutting edges reduce burr formation in aluminum machining of aerospace work-pieces.



Face and side milling / Pocket milling

Indexable milling tools with extreme reliability drastically improve productivity in high speed aluminum machining.



AXD Series



ALIMASTER

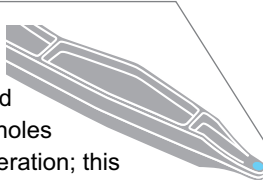


MNS Drill

Work material [Titanium alloy]

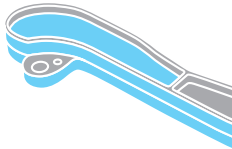
Drilling

Solid carbide drills with sharp cutting edges and coolant through holes reduce heat generation; this enables long tool life in machining of titanium alloy.



Side milling / Pocket milling

Milling tools that employ high welding resistance and good coolant distribution provide higher productivity in titanium alloy machining.



APX Series



Coolstar Series



TAW Drill

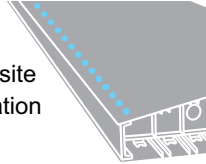


AIR FRAME

Work materials [CFRP, CF/Al, CF/Ti]

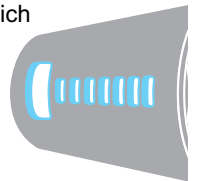
Drilling

PCD drills / CVD diamond coated drills with optimized cutting geometry for composite materials reduce burr formation and delamination.



Trimming

Diamond coated end mills which have high wear resistance and extreme sharpness can provide stable cutting of composite materials.



CVD Diamond Coated End mill



CVD Diamond Coated Drill

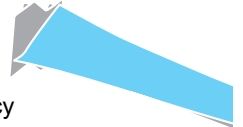


PCD Drill

Work material [Titanium alloy]

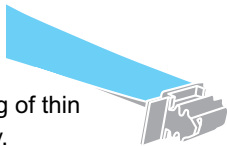
Rough surface milling

Indexable milling tools with high cost performance can provide high efficiency machining of titanium work-pieces.



Finish surface milling

Solid carbide end mills with variable helix reduce vibration in machining of thin parts of titanium alloy.



APX Series



SRF/SUF



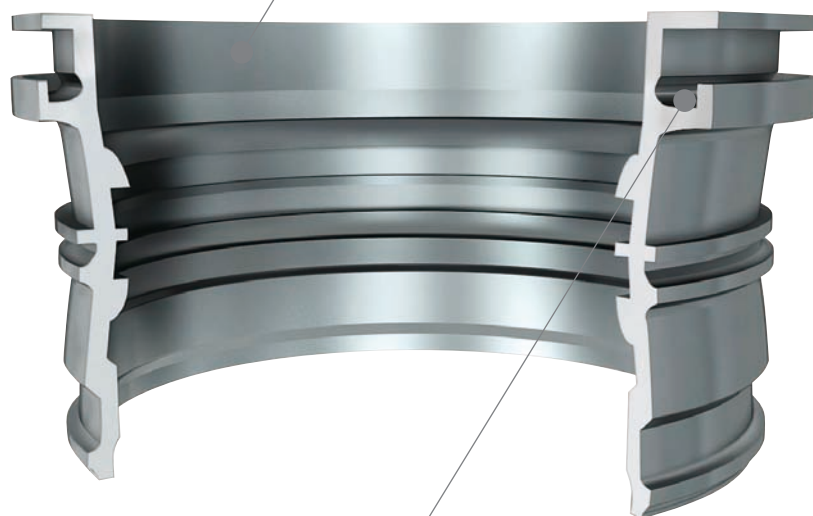
**Vibration Control
End Mill Series**

ENGINE

Work material [Titanium alloy]

External and internal turning

Uncoated carbide grades, which are suitable for heat resistant alloy, are recommended for turning due to their ability to reduce built up edge or weld chipping.



External and internal grooving

A modular grooving system with high cost performance and flexibility is recommended for machining of titanium alloy work-pieces.



FJ/MJ/MS/GJ
RT9010



HSK-T Tools



GY Series

Drilling

To reduce burr formation and increase hole accuracy in machining of titanium alloy, solid carbide drills with sharp cutting edges are effective.



Surface milling

Solid end mills with variable helix reduce vibration in machining of thin parts of titanium alloy.



Vibration Control
End Mill Series



MWS Drill



ENGINE

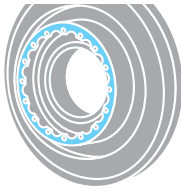
Work material [Ni-based superalloy]

External and internal turning

Inserts with sharp and ideal cutting edge can reduce the affected flow layer in turning of Ni-based superalloy.

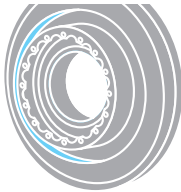
Processing of end shape

Solid carbide end mills with variable helix reduce vibration in machining of thin parts of Ni-based superalloy.

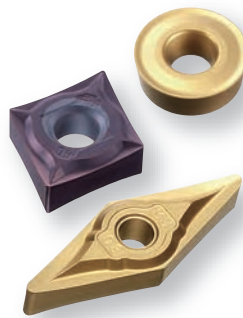


Copy turning

A modular grooving system with high cost performance and flexibility is a recommendation for Ni-based superalloy machining.



GYseries



FJ/MJ/MS/GJ
U5905/VP05RT/VP10RT

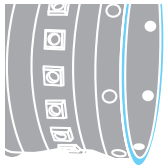


Vibration Control
End Mill Series



External and internal turning

The combination of a heat resistant coated-grade and chip breaker system with ideal sharpness can provide high efficiency turning of Ni-based superalloy.



Profile milling

To increase productivity when machining small portions of a work-piece, the indexable radius milling tools with small diameters and a plethora of teeth are recommended.



Drilling

Solid carbide drills with sharp cutting edges and coolant through holes can reduce heat generation; this enables long tool life in machining of Ni-based superalloy.



BRP



ARX



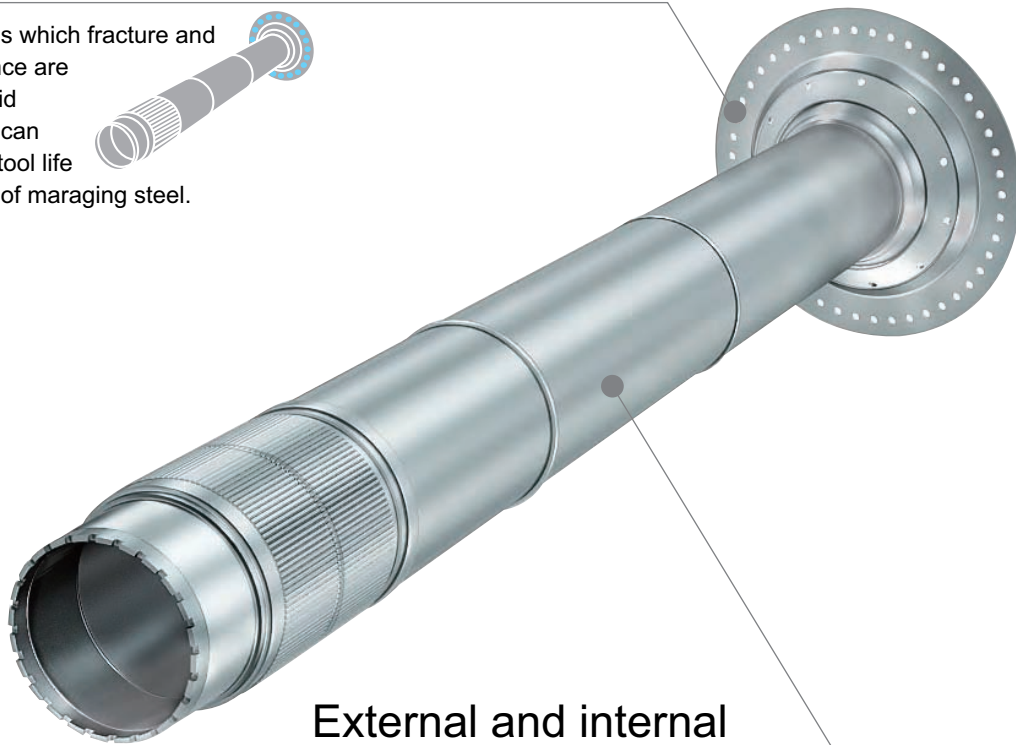
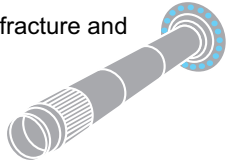
MWS Drill

ENGINE

Work material [Maraging steel]

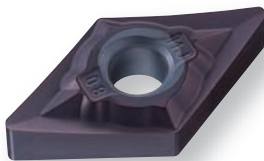
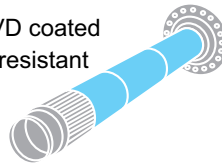
Drilling

In applications which fracture and wear resistance are essential, solid carbide drills can provide long tool life in machining of maraging steel.



External and internal turning

The combination of PVD coated grade for turning heat resistant alloy and rigid tooling system provides high-efficient turning and long tool life.



FJ/MJ/MS/GJ
VP05RT/VP10RT



HSK-T Tools



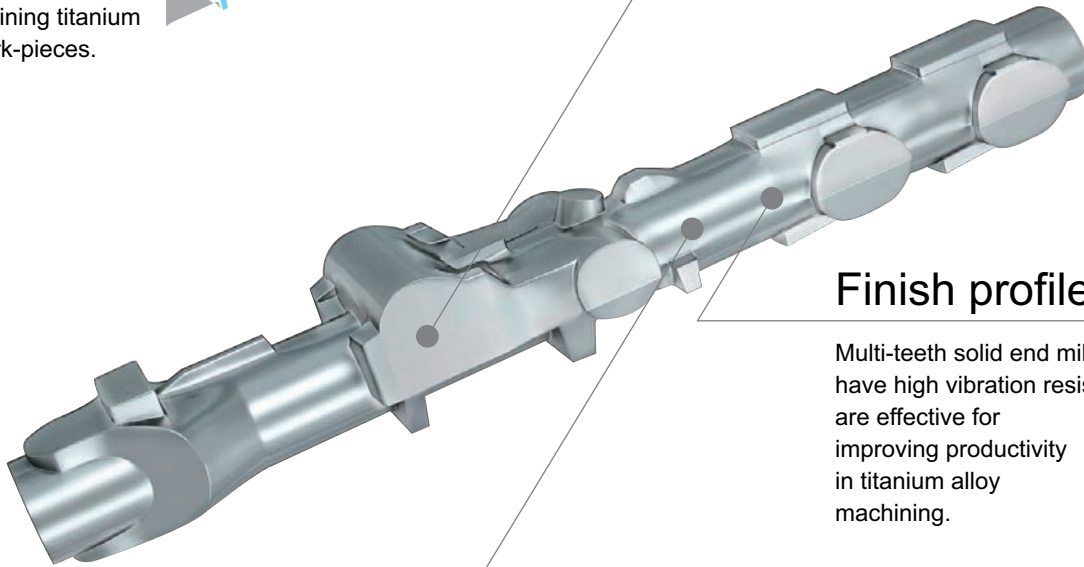
MWS Drill

LANDING GEAR

Work material [Titanium alloy]

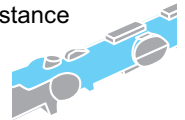
Rough milling

Indexable milling tools with ideal rigidity and low cutting resistance can improve productivity drastically for machining titanium alloy work-pieces.



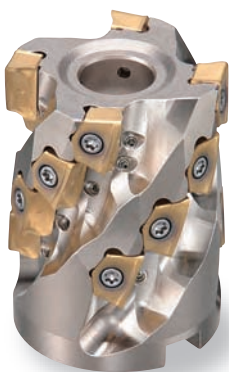
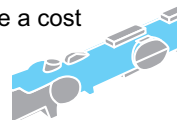
Finish profile milling

Multi-teeth solid end mills which have high vibration resistance are effective for improving productivity in titanium alloy machining.



Rough profile milling

Indexable milling tools with high precision inserts provide a cost reduction in machining of titanium alloy.



VFX6



SRM2

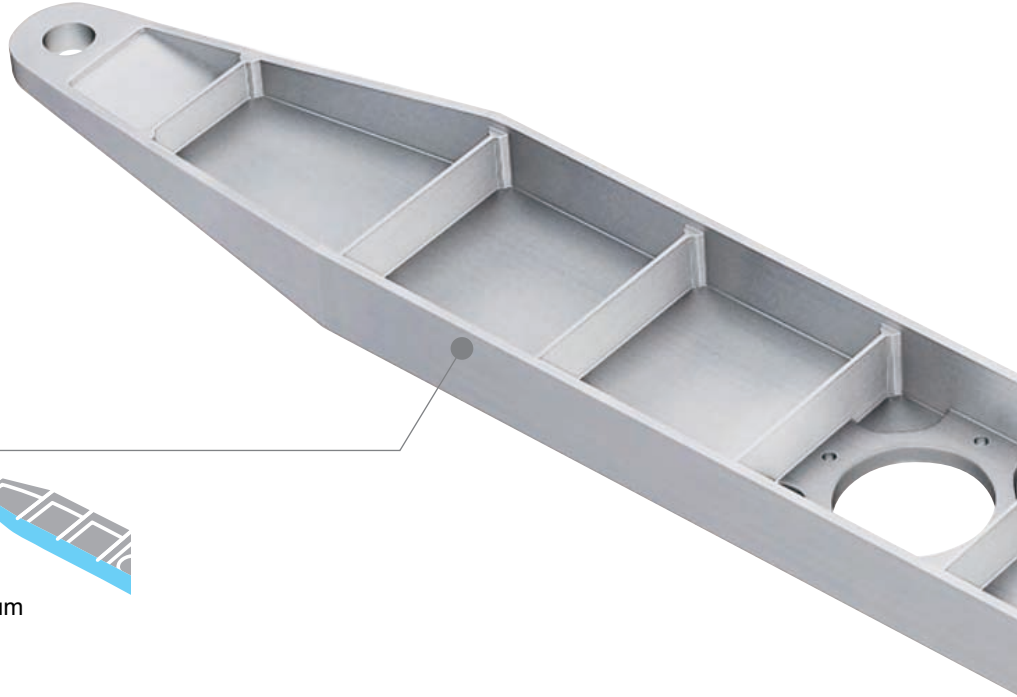


**Vibration Control
End Mill Series**



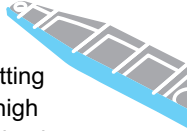
LANDING GEAR

Work material [Titanium alloy]



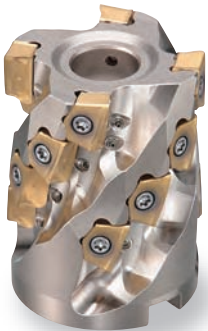
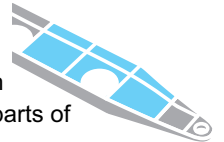
Side milling

Shell type end mills with long cutting edge, ideal rigidity, and low cutting resistance can provide high efficiency machining of titanium alloy.



Finish pocket milling

Solid carbide end mills with variable helix reduce vibration in machining of thin parts of titanium alloy.



VFX6



APX Series



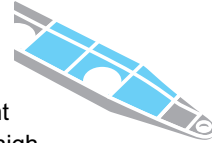
ARX



Coolstar Series

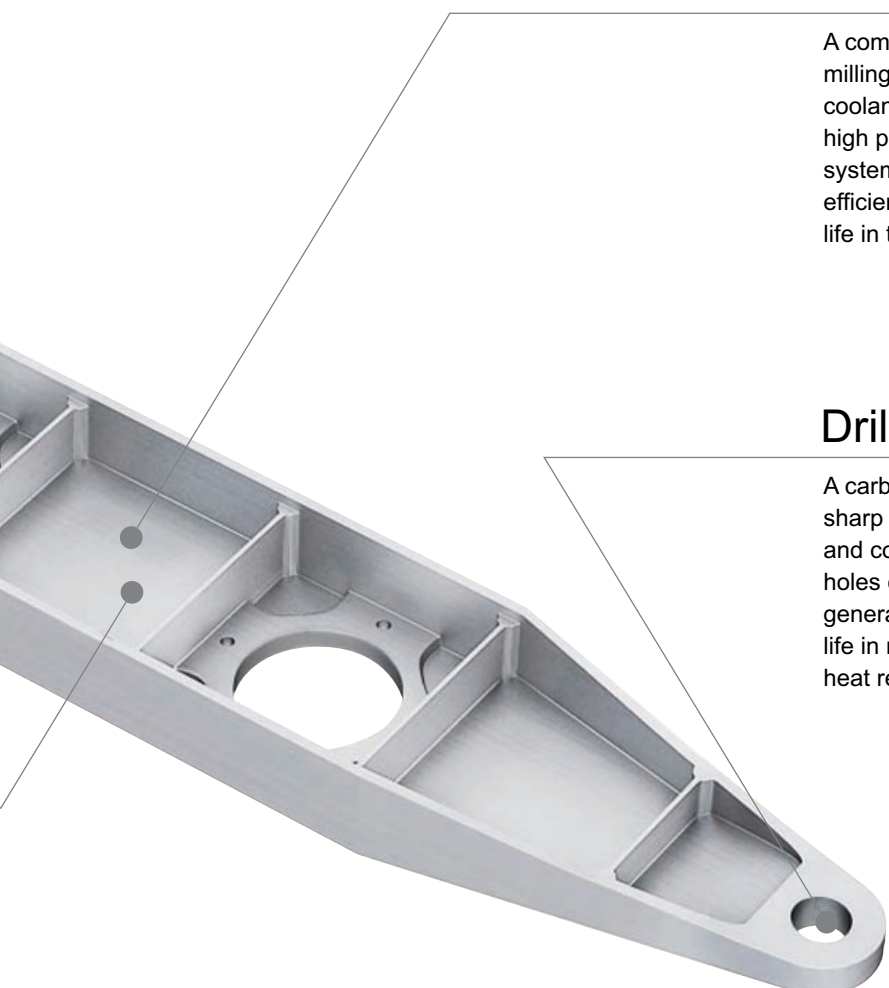
Rough pocket milling

A combination of a milling tool with coolant holes and high pressure coolant system can provide high efficiency machining and long tool life in titanium alloy machining.



Drilling

A carbide drill with sharp cutting edges and coolant through holes can reduce heat generation; this enables long tool life in machining of titanium and heat resistant alloy.



Vibration Control
End Mill Series

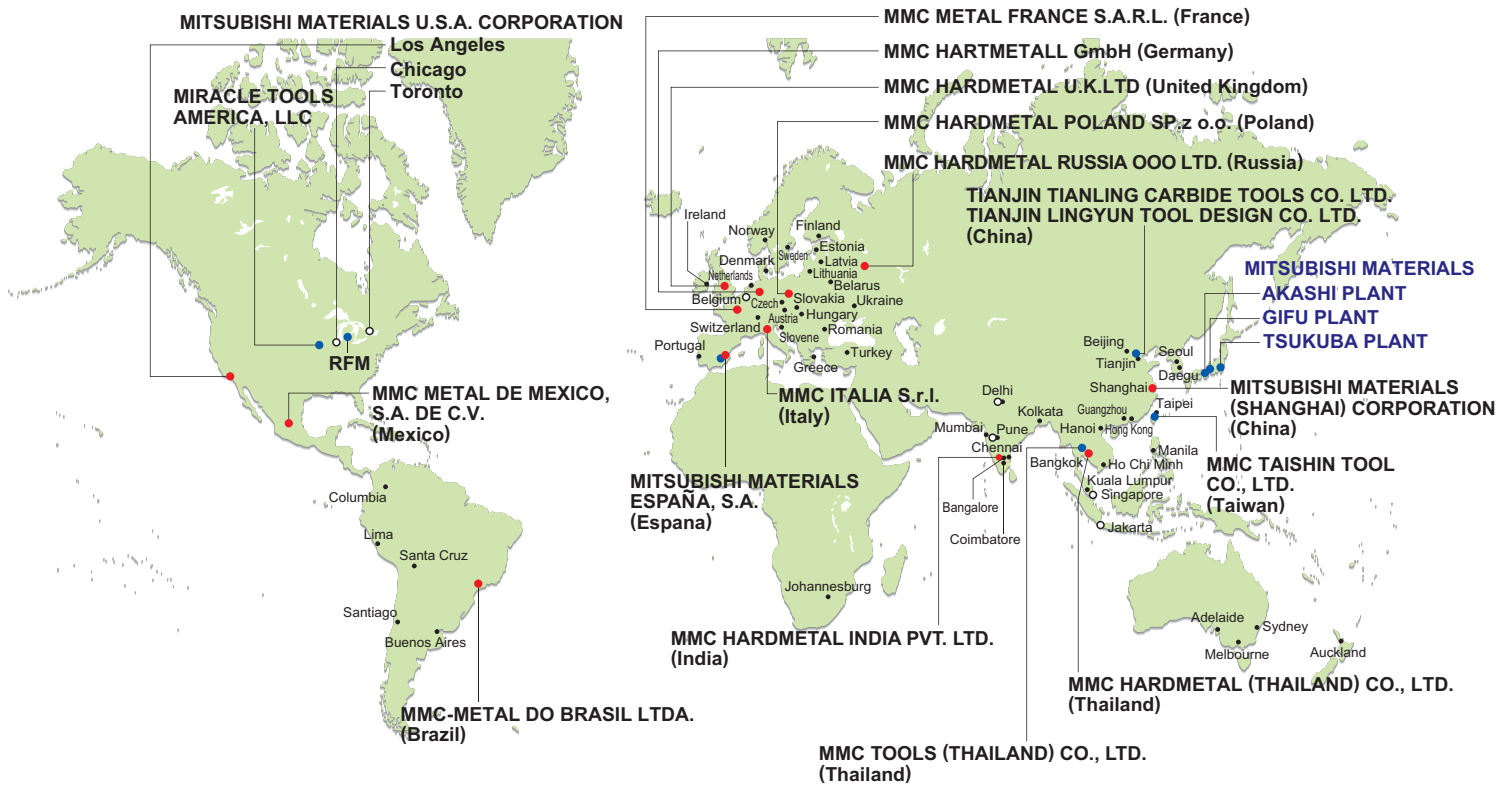


TAW Drill



MWS Drill

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- Factory
- Representative Office
- Agency



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