



## **Press release**

Rapperswil, 5th July 2023

### **URMA MX diamond – precise, process-reliable and efficient milling High-precision quick-change system for milling light metals**

**URMA AG is expanding its precision tool range with the diamond-tipped MX diamond shoulder and face shell mill tool, which is suitable for machining light metals such as aluminium. Here, too, URMA relies on the patented quick-change system, which promises the best handling and maximum precision.**

URMA AG has been a drilling expert in the field of precision tools for over 60 years. Under the motto "Innovation is our tool", the family-owned company with its production site in Rapperswil (Switzerland) develops and manufactures precision tool systems that are used worldwide in the mechanical engineering, automotive, hydraulics and aviation industries.

The market for light metal workpieces and their machining tools is constantly growing. The use of known shoulder and face mill tools works, but the handling is complex and time-consuming. URMA has taken up this challenge and applied its vast experience in the application of high-precision quick-change cut-off points. The result: MX diamond is a completely new shoulder and face shell mill system. With this modular cutting tool, URMA relies on the proven and highly precise RX quick-change cut-off point, which guarantees perfect axial run-out without the need for subsequent correction when changing cutting edges. The teeth of the solid carbide cutting edge body are fitted with up to 20 PCD (polycrystalline diamond) tips and are ideally suited for machining lightweight materials such as aluminium, magnesium, copper-containing metals without iron, composites and fibre-reinforced plastics. This latest generation of face milling ensures lean production processes and automated production. Thanks to the high tool rigidity of the MX diamond, both finishing and roughing cuts can be made with the same cutting edge. With a feed rate of 0.05 to 0.3 mm per tooth and a cutting speed of up to 5000 m/min, MX diamond is ideal for series production. Various geometries are available to meet individual requirements.

#### **MX diamond advantages at a glance**

- **Quick-change system for ease of handling**  
The high changeover accuracy of <0.004 mm concentricity and <0.002 mm axial run-out mean there is no need for the user to make repeated, time-consuming adjustments to the axial run-out. The cutting edge can be replaced in less than five minutes, saving up to two hours of downtime compared to similar shoulder and face milling tools.
- **High hardness cutting materials**  
The PCD (polycrystalline diamond) tipping guarantees the best tool life, surface quality and process reliability.

- **Aluminium / non-ferrous metal machining**

The high hardness and chemical resistance of PCD is ideally suited for machining materials such as aluminium, magnesium and fibre-reinforced plastics.

- **High cutting speed with high feed rate**

MX diamond is suitable for high-speed milling thanks to the high cutting speed with high feed rate and meets the greatest demands in terms of surface quality and accuracy.

- **High rigidity due to solid carbide cutting edge body**

The carbide cutting edge body is characterised by a very high tool rigidity, which prevents vibrations and micro chipping at high speeds and thus increases the tool life as well as the quality of the components.

- **Optimal chip removal on account of the ideal chip space geometry and coolant supply**

The perfect chip space geometry with integrated coolant supply ensures optimum chip removal at all times.

## Key Facts

Diameter	63 / 100 / 125 mm
Concentricity	< 0.004 mm
Axial run-out	< 0.002 mm
Cutting speed	5000m/min
Feed rate	0.05 - 0.3 mm per tooth
Number of teeth	12 / 18 / 20
ap	Up to 4 mm
metals to be machined	Non-ferrous metals, composites and fibre-reinforced plastics
Delivery time	Standard ex stock

More information: [urma.ch/en/tools/milling/MX-Diamond.php](http://urma.ch/en/tools/milling/MX-Diamond.php)

## About URMA AG

URMA AG develops and manufactures precision tool systems. Since 1962, the family business has been at home in Switzerland with its headquarters and production facility. URMA also has subsidiaries in Germany, Spain, the US and China, and has OEM partnerships with Paul Horn (Germany) and Sumitomo (Japan).

The precision tools are used worldwide for drilling work in the mechanical engineering, automotive, hydraulics and aviation industries. With its high-precision tool systems, URMA increases process reliability for customers and contributes to increased efficiency. URMA supports manufacturing companies with standard and special tools in the development of individual solutions and innovations. Thanks to the optimal infrastructure, test procedures are carried out in the company's own Test Centre for prototypes, for new coatings, geometries, chip formers, the influence of different coolants as well as of special tools for specific customer applications. In addition, training and further education for customers takes place at the Test Centre.

In Switzerland and Liechtenstein, URMA exclusively distributes and maintains HAAS machine tools with the HAAS Factory Outlet. In addition to 3D printing systems from EOS and Markforged, URMA also offers the broad machine portfolio from DyeMansion for finishing plastic components and Solukon de-powdering systems for metal components.

More information: [www.urma.ch](http://www.urma.ch)

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## Photos and captions



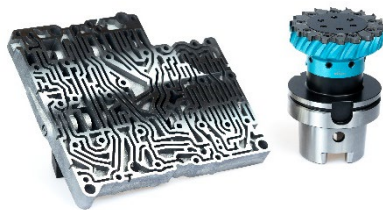
URMA introduces: MX diamond shoulder and face shell mill. Source URMA AG



The diamond-tipped MX diamond shoulder and face milling cutter is suitable for machining light metals such as aluminium. Source URMA AG



Thanks to the high tool rigidity of the MX diamond, both finishing and roughing cuts can be made with the same cutting edge. Source URMA AG



Processing of aluminium is also playing an increasingly important role in the automotive industry. Source URMA AG



The teeth of the solid carbide cutting edge body are fitted with up to 20 PCD tips and are ideally suited for machining lightweight materials. Source URMA AG



URMA relies on the proven and highly precise RX quick-change cut-off point, which guarantees perfect axial run-out without the need for subsequent correction when changing cutting edges. Source URMA AG



With a feed rate of 0.05 to 0.3 mm per tooth and a cutting speed of up to 5000 m/min, MX diamond is ideal for series production. Source URMA AG



MX diamond is available in three different diameters (63mm, 100mm and 125mm). Source URMA AG

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