

## High Precision Coating Tool

# SLOT DIE

**MITSUBISHI MATERIALS HARDMETAL Slot Die features high precision, quality, and durability by adopting Tungsten Carbide technology, top-tier manufacturing, fluid analysis and design, and a detailed inspection process.**

### Application Ranges Include

- Lithium Ion Battery
- OLED
- MLCC
- Capacitor
- Functional Films
- Thin Film Solar Cells / Organic Solar Cells
- Fuel Cells
- LCD
- Optical Films



Fuel Cells



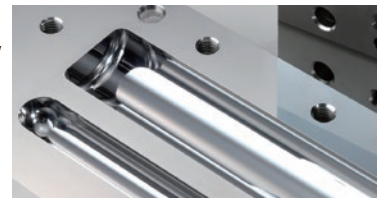
Photovoltaic



Secondary Batteries

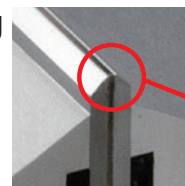
### High Precision by Proprietary Grinding Technology

Our grinding technology enables us to improve the coating uniformity with a razor-sharp coating lip below 2 $\mu$ m/m straightness.



### Long-life and High Quality Coating due to Tungsten Carbide Lips

The combination of stainless steel alloy body with excellent corrosion-resistance and micro-fine tungsten carbide with excellent wear-resistance, enables long life and excellent quality coating.



Tungsten Carbide Lip Edge

### Custom Sizing

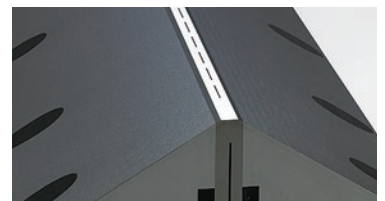
Can be manufactured to lengths up to 3800mm(150inch) for higher efficiency and productivity.

#### Application Ranges

- Length Available : Max. 3800mm (Max. 150inch)
- Dry Film Thickness : 10nm - 0.7mm (0.0004mils - 0.027inch)
- Wet Film Thickness : 3 $\mu$ m - 1mm (0.12mils - 0.039inch)
- Viscosity : About 1cps - 30,000cps

### Coating Patterns

Intermittent coating and striped coating is also available.



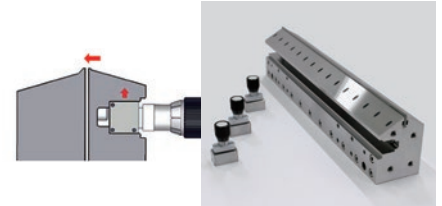
### Slit Width Adjustment Systems

#### Bolt Adjustment

- Bolt type allows precise adjustment
- Able to widen or narrow the slit width
- Wide adjustment range and high versatility

#### Slit width adjustment unit slide type slot die

- Accurate quantitative control is possible
- High restorability
- Easy-to-read scale display
- Adjustable at any position in the groove



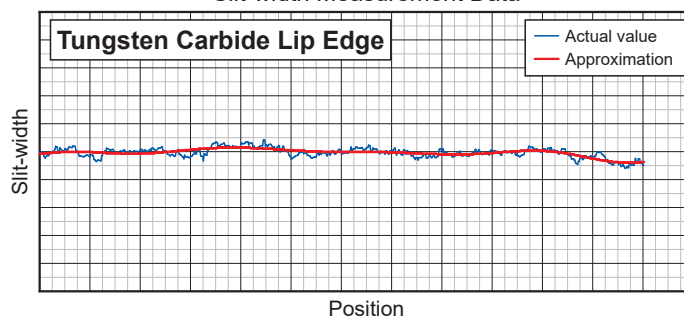
## Precision Non-contact Measurement

An exclusive measuring tool for MITSUBISHI MATERIALS HARDMETAL<sup>®</sup> Slot Die

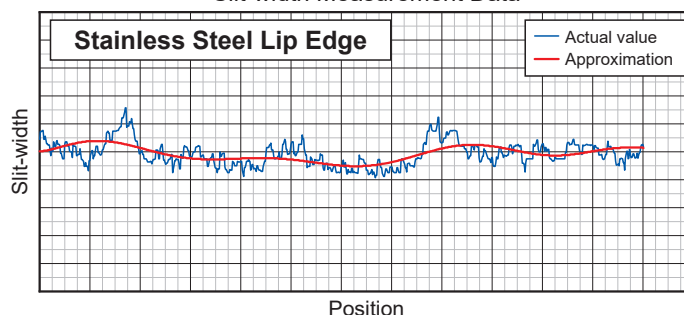


- CCD camera can measure slit width overall.
- Slit width that can be measured: Up to a Maximum of 0.5mm

Slit-width Measurement Data



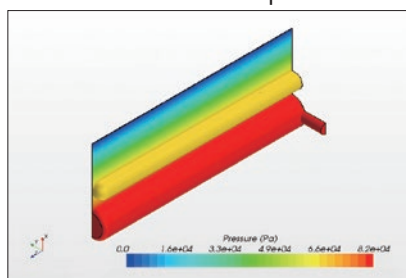
Slit-width Measurement Data



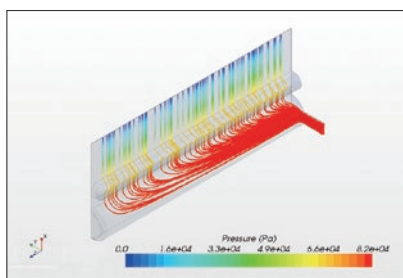
## Fluid Analysis

The fluid analysis simulates the inner pressure of the manifold and deviation of the coating thickness, and the manifold shape can be optimized based on these results.

Distribution of inner pressure



Distribution of streamline



Distribution of wet (coating) thickness



## Hinge Mechanism (Option Setting)

A hinge mechanism can be installed as an option. The die can be opened or closed by operating the handle. Cleaning and maintenance will be easy with the die on the coating modules.



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