MPP is a leading manufacturer of high-precision tools for a wide range of Flip-Chip applications. Our tools meet the challenges of the Flip-Chip process through accuracy, conductivity and repeatability.

MPP offers top performance at low cost, thus providing the best solution to our customers. Our wide array of tools are designed to fit all types of machines in the market.
MPP's Available Models of Flip-Chip Tools

Die Pick-Up Tools
Typically used for the first step of the Flip-Chip process: a cavity or a collet tool type can be used.

A Vacuum "Shower Head"
A surface tool made from softer materials, such as: Vespel, Torlon, Delrin, Teflon, or PVC, to prevent deforming the bumps.

Standard Flat Face Vacuum Pick Up Tools
Are used to hold the die between the bumps.

Tip Dimensions & Configuration:
- Square dies > Round Pick-Up Tool Tip
- Rectangular Tip > Rectangular Pick-Up Tool Tip
- Machine type - MPP provides a wide selection of Pick Up tools
- to fit all types of machines in the market

Material Selection:
MPP Flip-Chip tools are made from various materials or combinations of the following:
- Ceramics - Alumina (Al2O3), Zirconia (ZrO2)
- Carbides - Tungsten Carbide (WC)
- Plastic - Vespel, Delrin, PEEK, PEEK ESD, POM-H, Torlon, Other
- Metals - Stainless Steel, High-Speed Steel, Brass, Copper, Aluminum

Special Designs
MPP is well-known for its engineering and manufacturing flexibility and expertise. We are able to custom develop and custom design for your specific applications.

The shape and length of these tools are designed to optimize the transmissions of the ultrasonic vibration when the die is bonded to its substrate. For ultrasonic or eutectic bonding, flip-chip tools give the best gripping capability due to their 4-sided pyramid geometry.

Super Polish Solution
As part of MPP’s strive for excellence, MPP has mastered the ability to provide a super polish treatment to our tools’ surface:
- For sensitive die
- For large and small die sizes
- For a better yield due to less dies edge breakage.
- MPP provides Roughness Average (Ra) of mirror finish up to 0.05 um (N4 grade)

For more information please visit our website, www.mpptools.com or contact us directly at sales@mpptools.com

MPP's technical experts are ready to support you with customized solutions for all application challenges.

Vacuum Shower Head

Customized design

Process Requirements from Flip-Chip tools:
- High planarity
- Accurate placement
- Low-contact surface area
- High precision
- High position accuracy
- Reliable bonding process
- Good vacuum mounting
- Long tool life