



Precision Workholding Technology

DYNAGRIP™ DYNOLock™ DYNOMOUNT™
QUICK CHANGE, ZERO POINT 52/96 SYSTEM



Headquartered in Anoka, Minnesota, in a 300,000 sq. ft. (28,000m²) state-of-the-art facility.



SEVEN DECADES OF EXCELLENCE

Founded in 1962, Mate is a world-class manufacturer of superior solutions for the metal cutting and metal forming industries. We manufacture workholding systems, CNC punch press tooling, and offer a complete line of press brake tooling and laser consumables. Mate products and services are available worldwide, fully supported by more than 80 dealers in every industrialized country.

PERSONAL, RESPECTFUL RELATIONSHIPS

Mate does business with people, not companies. Our connection to you is personal. Mate's team of manufacturing and metalworking professionals knows what you go through. We know what it's like to compete for that next job, manage deadlines or even need a rescue. With Mate you have a partner that respects your knowledge and is dedicated to helping you succeed.



YOUR GO-TO SOURCE

Serving our customers is at the core of who we are. In your plant or on the phone, we're up for whatever metalworking challenges you face. Your Mate representatives are experts who know from experience what happens on the shop floor and provide our legendary in-field support. They speak your language, fully capable of helping you improve processes and solve problems. Mate customer service is ready to assist with fast quotes, guiding your order on to our top-notch machinists and shipping pros.



GET INSPIRED!

With our vast knowledge and broad product range we inspire innovative thinking. Our customer's projects can be seen around the world: from unique building façades thought to be impossible to make, to a new way to add strength to thin material. The possibilities are endless, so think big, bold and beyond.

WE'VE GOT YOU COVERED

Dedicated to quality in every aspect of our business, Mate offers an extensive standard product line that can be delivered with same day or next day service. All Mate products are backed with our industry leading 100% customer satisfaction guarantee.



MATE'S MISSION AND PROMISE TO YOU:

Mate's mission is to personally **Respect, Support** and **Inspire** metalworking professionals around the world with high-quality products and services for factory productivity.

Precision Workholding Technology

Mate™ Workholding System Overview

DynoGrip™ Vises Overview	4
DynoLock™ Bases Overview	5
DynoMount™ Tombstones and Dual Right Angles Overview	6
DynoMount™ Pyramids and Risers Overview	7



Welcome to Mate Workholding

Increase your factory productivity with the all new, next generation 52/96 zero point workholding system from Mate Precision Technologies: Mate DynoGrip™ Vises, Mate DynoLock™ Bases and Mate DynoMount™ Mounts and Accessories.

Mate understands your challenges. We have decades of machining experience producing precision, high quality steel products for customers around the world. Using this knowledge, Mate designed and developed the ultimate workholding system. Mate Workholding is truly made for machinists by machinists.

The Mate 52/96 zero point workholding system maximizes holding power in a compact, quick change modular design that reduces setup time and process variability. It is ideal for 3-, 4- and 5-axis machining centers. Going beyond machining, it can be used in a variety of applications such as inspection, CMM, cleaning, washing, assembly and additive manufacturing.

A zero point system, Mate 52/96 workholding is compatible with similar systems, including 52mm and 96mm four post pull stud configurations from Lang, Jergens, 5th Axis, Gerardi and others. The vises also accept a single pull stud configuration for compatibility with Schunk, Big Daishowa and others. By using the appropriate adapter, Mate 52/96 zero point vises are easily modified to work with systems from SMW, Erowa, System 3R and others.

With an eye to factory automation, the Mate 52/96 zero point workholding system includes QuickSpecs™, a unique product identification system that provides real-time access to product information and potential integration into your business systems. Additionally, the product supports common robotic interfaces and palletizing systems.

Made in the USA. Made for people who respect well-made, quality products. Made for machinists by machinists.

Catalog content subject to change without notice.



SELF-CENTERING VISE SYSTEM

Not just any compact quick change vise system, Mate DynoGrip self-centering vises are engineered to shorten setup time and reduce process variability.

A closer look at the following product highlights shows just how much thought went into designing and building the DynoGrip vise system.

Product highlights:

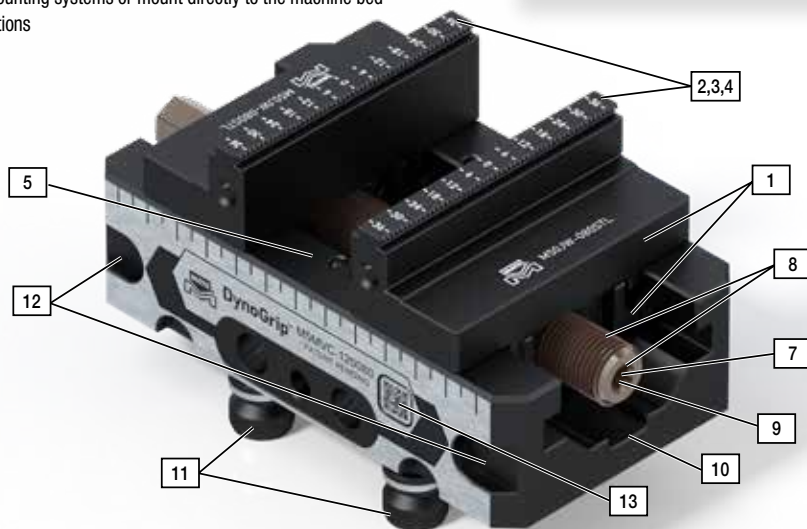
- Maximum holding power in a compact form with minimal part lift
- Best-in-class accuracy of vise clamping on center to $\pm 0.015\text{mm}$ ($\pm 0.0006''$)
- Best-in-class repeatability of vise return to center of 0.010mm ($0.0004''$)
- Quick change jaws, reversible and interchangeable, no tools required
- Jaws made from highly-alloyed, tool steel (core hardness 45-50 HRC, surface hardness up to 65HRC)
- Black Diamond™ surface treatment on vise body, pushers and jaws for maximum life
- Zero Point quality engagement with 52mm and 96mm four post pull stud pattern
- Compatible with other mounting systems or mount directly to the machine bed
- Available in 13 size variations
- Patented design
- Made in USA

Best-In-Class

Accuracy:	$\pm 0.015\text{mm}$	$\pm 0.0006''$
Repeatability:	0.010mm	$0.0004''$

Torque and Force

	52 with 60mm Jaw	52 with 80mm Jaw	96 with 80mm Jaw	96 with 125mm Jaw
Max Torque	60Nm	60Nm	130Nm	130Nm
Max Force	19kN	23kN	31kN	34kN
Max Torque	44 ft-lbs	44 ft-lbs	95 ft-lbs	95 ft-lbs
Max Force	4300 lbf	5200 lbf	7000 lbf	7650 lbf



1. Anti-Lift Design - the pusher and jaw exert downward force on the piece part
2. Quick change jaws, hardened, interchangeable and reversible, no tools required to attach or remove
3. Three-In-One multi-grip jaw design for maximum flexibility-parallel, 45° dovetail, and precision serrated tooth standard with every jaw
4. Serrated tooth geometry for superior bite and downward force, with a built-in dovetail design for the most demanding applications
5. Designed to accept an optional center jaw to hold two piece parts at one time
6. Optional machinable jaw adapter with integrated quick change feature and steel or aluminum jaw blanks (not shown)
7. Best in class precision lead screw manufactured from premium tool steel and NC controlled heat treatment, tempering and proprietary TiCN coating
8. Synchronized timed threads on both the lead screw and pushers - repeatable precision centering, interchangeable replacement components
9. Lead screw and center support assembly are easily micro adjustable, fine calibration
10. Angled channels and side ports for better swarf and coolant flow
11. Pull studs highly wear resistant with optimized geometry to ensure better location repeatability and lock down force when used with DynoLock bases
12. Toe Clamp engagement option for direct mount to machine table
13. Mate's QuickSpecs™ QR code tag that is smartphone enabled and 3D graphic supported, with links to full product specs and CAD files
14. Compatible with competitor bases. Requires applicable pull studs and hardware
15. Compatible with Schunk Vero-S and other ZPS connection systems. Requires applicable pull studs and hardware
16. Black Diamond™ surface treatment on vise body, pushers and jaws for maximum life
17. Jaws are end stop ready

<https://www.mate.com/patents/>

52 Family



96 Family





BASE SYSTEM

Mate's DynoLock quick change base system is the foundation of your workholding and the key to superior productivity. DynoLock bases mount to the machine bed, tombstone, pyramid, riser or dual right angle. Offering best-in-class accuracy and repeatability, DynoLock maintains a superior holding force with the top tool. Whether you change the same vise repeatedly or exchange it for a different one, DynoLock has what it takes to securely hold your vise.

Mate DynoLock bases reduce your machine setup times and keeps you in the cut.

Product highlights:

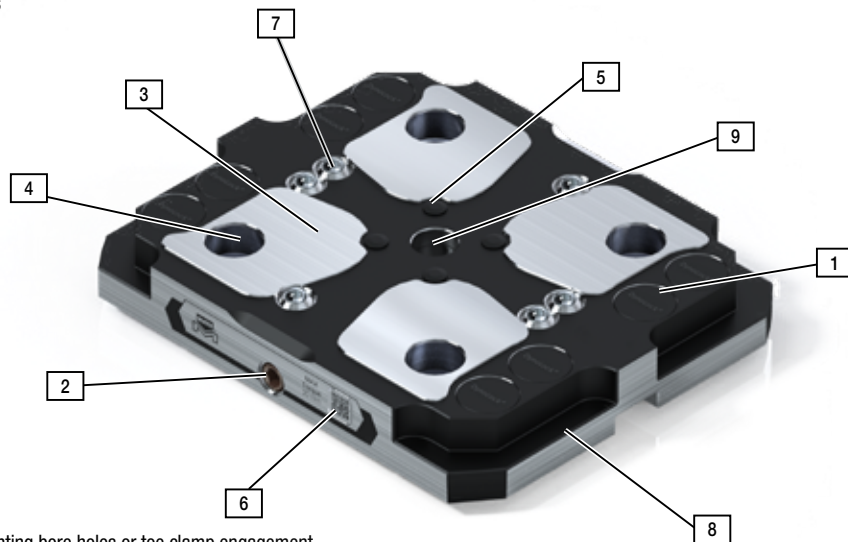
- Best-in-class accuracy - engaging top tool on center to $\pm 0.013\text{mm}$ ($\pm 0.0005''$)
- Best-in-class repeatability - engagement of top tool to same location 0.005mm ($0.0002''$)
- Best in-class holding force - secure hold of top tool. Force required to separate top tool 0.013mm ($0.0005''$) from 52 base is greater than 22kN (5000lbf) and 26kN (6000lbf) in 96 base
- Lowest input torque to output force
- Black Diamond™ surface treatment on vise body, pushers and jaws for maximum life
- Pull studs are firmly secured and held by a collar which has superior holding functionality
- Zero Point quality engagement as all four pull studs are drawn to the base center for superior accuracy
- Available in 14 size variations
- Patented design
- Made in USA

Best-In-Class

Accuracy:	$\pm 0.013\text{mm}$	$\pm 0.0005''$
Repeatability:	0.005mm	$0.0002''$

Torque and Force

	52	96
Max Torque	20Nm	20Nm
Max Holding Force	22kN	26kN
Max Torque	175 in-lbs	175 in-lbs
Max Holding Force	5000 lbf	6000 lbf



1. Table mount options: mounting bore holes or toe clamp engagement
2. Manually actuated using standard 6mm hex
3. Raised contact pads ensures better flatness and improved machining debris removal
4. Collar style pull stud engagement design - centering distribution for superior holding force and repeatability
5. Poka-Yoke alignment feature
6. Mate's QuickSpecs™ QR code tag that is smartphone enabled and 3D graphic supported, with links to full product specs and CAD files
7. Lifters (ball plungers) help to lift the vise off of the contact surfaces of the base making vise removal easier
8. Toe Clamp engagement option for direct mounting to the machine table
9. Precision center probe hole for acquiring location indicator readings
10. Compatible with competitor vises if Mate pull studs are attached
11. Optional bottom centering plates and alignment keys for direct mount to machine tables or trunnions

<https://www.mate.com/patents/>

52 Family



96 Family



Adapter





TOMBSTONES

DynoMount three- and four-sided tombstones are designed for use with Mate DynoLock 52 family and 96 family bases. Using a chambered design for weight reduction, Mate DynoMount tombstones include a hoist ring lift connection for easy load and unload. Features Mate's QuickSpecs™ QR code tag that is smartphone enabled and 3D graphic supported, with links to full product specs and CAD files. Compatible with some competitor bases when used with applicable bushings and hardware. Available as a tombstone only or assembled with DynoLock bases.

52 Family - 3 Sided, 4 Sided



96 Family - 4 Sided



DUAL RIGHT ANGLES

DynoMount dual right angle mounts are for applications set perpendicular to the table. Designed for use with Mate DynoLock 52 family and 96 family bases, dual right angle mounts can be setup and used on one or both sides. Features Mate's QuickSpecs™ QR code tag that is smartphone enabled and 3D graphic supported, with links to full product specs and CAD files. Designed to be pull stud mounted to a compatible base, the dual right angle is also direct-to-table mount ready. Compatible with some competitor bases when used with applicable bushings and hardware. Available as a dual right angle only or assembled with DynoLock bases.

52 Family - 2 Sided



96 Family - 2 Sided





PYRAMIDS

DynoMount three-sided pyramids are designed for use with Mate DynoLock 52 family and 96 family bases. Using a chambered design for weight reduction, pyramids also include a hoist ring lift connection for easy load and unload. Features Mate's QuickSpecs™ QR code tag that is smartphone enabled and 3D graphic supported, with links to full product specs and CAD files. Designed to be pull stud mounted to a compatible base, pyramids are also direct-to-table mount ready. Compatible with some competitor bases when used with applicable bushings and hardware. Available as a pyramid only or assembled with DynoLock bases.

52 Family - 3 Sided



96 Family - 3 Sided



RISERS

Risers are designed for use with Mate DynoLock 52 family and 96 family bases. Available with a total 60mm (2.36") or 100mm (3.94") additional height. Features Mate's QuickSpecs™ QR code tag that is smartphone enabled and 3D graphic supported, with links to full product specs and CAD files. Mate risers use a pull stud mounting to a compatible base. Compatible with some competitor bases when used with applicable bushings and hardware. Available as a riser only or assembled with DynoLock bases.

52 Family - 60mm, 100mm



96 Family - 60mm, 100mm





MATE PRECISION TECHNOLOGIES GLOBAL COVERAGE

WORLDWIDE HEADQUARTERS:

1295 Lund Boulevard, Anoka, Minnesota 55303 USA
Tel +1.763.421.0230 mate.com

orders@mate.com