WIDIA

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TOOLING SYSTEMS

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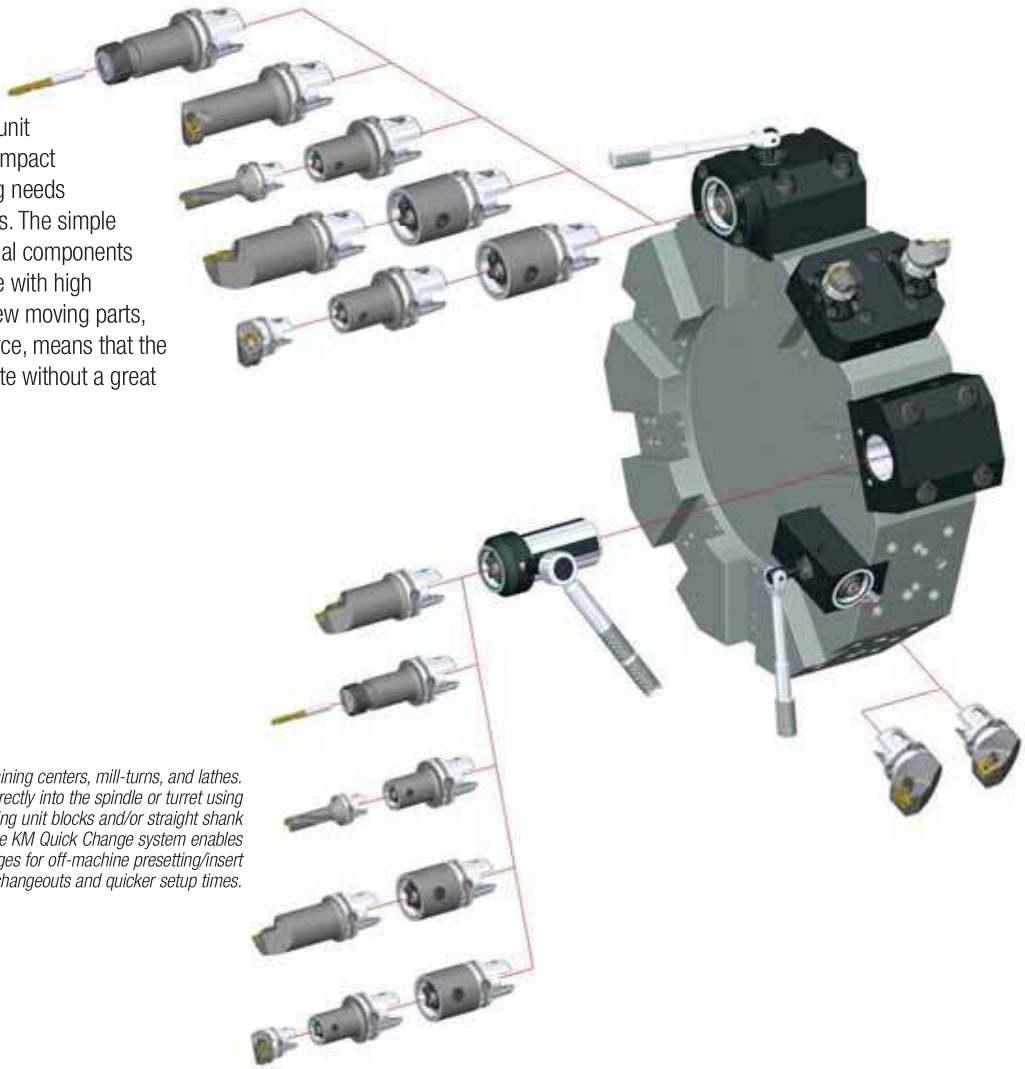
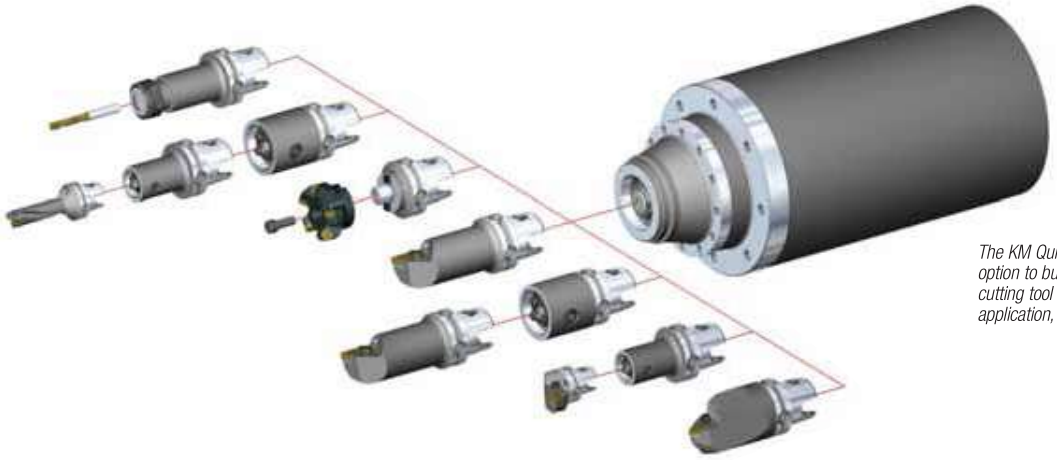
Conversion and Clamping System
Clamping Units

KM™ offers a variety of different clamping designs to suit manufacturing needs. Each unit design comes in a portfolio of compact options to further diversify tooling needs across a multitude of applications. The simple design of the units utilizes minimal components to create a strong clamping force with high mechanical advantage. Having few moving parts, and requiring a low activation force, means that the KM Quick Change Clamps operate without a great deal of maintenance or error.



One system for machining centers, mill-turns, and lathes. Can be integrated directly into the spindle or turret using standardized clamping unit blocks and/or straight shank conversions to KM. The KM Quick Change system enables speedy tool changes for off-machine presetting/insert changeouts and quicker setup times.



The KM Quick Change modular system offers the option to build a combination of many possible cutting tool lengths for best rigidity for the application, optimizing costs and inventory.

Manual and Automatic Clamping Units

Manual Square Shank Replacements

Manual Round Shanks

Manual Flange Mounts

LOC II Square Shanks

LOC II Round Shanks

LOC II VDI Axial

Automatic Static

Manual Clamping Units

- Simple, compact design for use in many applications.
- Single- or four-pin clamping mechanisms.
- Torque values used to clamp/unclamp tooling — 2-1/2 turns to activate.
- Available options: square shank, straight shank, flange mount, VDI, extensions/reduces, and machine tool blocks.

LOC II Clamping Units

- Newest design in turn-to-turn clamping.
- Compact design with fewer components.
- Single- and two-piece designs.
- Virtually maintenance free.
- Increased clamping force.
- Available options: flange cartridge, boring cartridge, straight shank, and VDI.
- 100 bar (1,500 psi) coolant capability standard on all LOC II units.

LOC Clamping Units

- First generation of turn-to-turn clamping units.
- Low activation torque required.
- Stop-to-stop activation.
- Cam-driven spring pack.

LOC Clamping units are available in a limited portfolio to meet the needs of previous installations.

Automatic Spring Packs

NACA, RACA Units

- Based on VDI turret concept.
- Common release point.
- Flexible turret.
- Right-angle mechanism.

KM80 Pancake Design

- Compact and rigid.
- More than 14,000 lbs of clamping force.

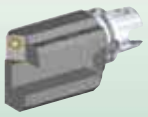
Rotating Spindle

- Easily incorporated into machine tool applications.
- Over 5:1 mechanical clamping force.
- Front-loading design for easy access maintenance that reduces downtime.
- No gripping fingers or retention knobs to reduce long-term performance.

Toolholding Systems

45° Centerline

Single-Square Shank Adapters



Single-Square Shank Adapters

Cutting Units

Boring Bar Adapters

Shrink Fit Toolholders

Slim Line Hydraulic Chucks

Single-Angle Collet Chucks

Top Cut™ Drills

KM Reducers

Clamping Units

KM offers a variety of different clamping designs to suit manufacturing needs. Each unit design comes in a portfolio of compact options to further diversify tooling needs across a multitude of applications.

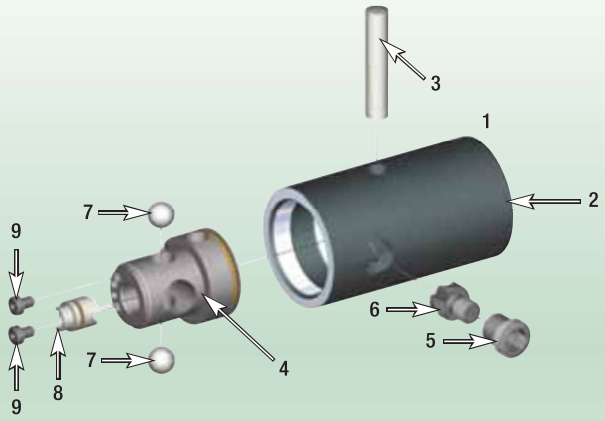
The simple design of the units utilizes minimal components to create a strong clamping force with high mechanical advantage. Having few moving parts and requiring a low activation force, means that the KM Quick Change clamps operate without a great deal of maintenance or error.

Manual Clamping Units

- Simple, compact design for use in many applications.
- Single- or four-pin clamping mechanisms.
- Torque values used to clamp/unclamp tooling — 2-1/2 turns to activate.
- Available options: square shank, straight shank, flange mount, VDI, extensions/reducers, and machine tool blocks.

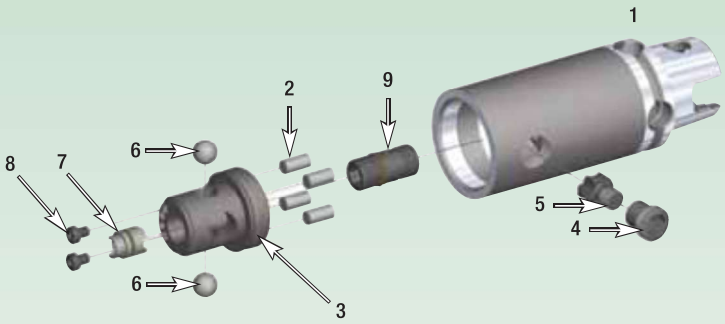
Single-Pin Design

1. KM Clamping Unit Assembly
2. Clamping Unit Body
3. Canister Pin
4. Canister
5. Torque Screw
6. Lockrod
7. Locking Balls
8. Bump-Off Pin
9. Bump-Off Pin Screws



Four-Pin Design

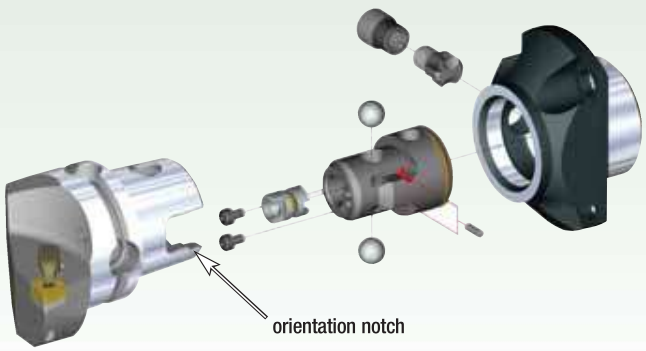
1. KM Clamping Unit Assembly
2. Canister Pin (4x)
3. Canister
4. Torque Screw
5. Lockrod
6. Locking Balls
7. Bump-Off Pin
8. Bump-Off Pin Screws
9. Canister Screw



Error-Proofing Capability for KM Manual Clamping Units

KM Manual units must be disassembled in order to be error proofed. After disassembling the unit, you will find two holes within the canister. To error-proof the unit, insert a metric slotted pin into one of the holes within the canister. Reassemble, and the clamping unit is now error-proofed.

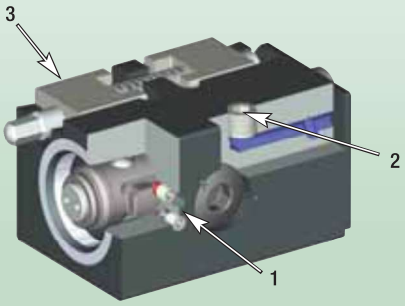
- KM40TS — 3mm x 6mm metric slotted pin
- KM50TS — 4mm x 8mm metric slotted pin
- KM63TS — 5mm x 10mm metric slotted pin
- KM80TS — 5mm x 10mm metric slotted pin
- KM63XMZ — 5mm x 10mm metric slotted pin
- KM80ATC — 5mm x 10mm metric slotted pin



KM LOC II™ Clamping Units

- Newest design in turn-to-turn clamping.
- Compact design with fewer components.
- Single- and two-piece designs.
- Virtually maintenance free.
- Increased clamping force.
- Available options: flange cartridge, boring cartridge, straight shank, and VDI.
- 100 bar (1,500 psi) coolant.

1. Error Proofing
2. Coolant Port
3. Locking Wedges



KM LOC II clamping units offer an increased mechanical advantage of up to 7:1. They require less activation torque, which creates less stress on the clamp's components. The readily adaptable design of the KM LOC II clamping unit enables the device's user to manufacture the tool block as they choose.

Automatic Spring Packs

NACA, RACA Units

- Based on VDI turret concept.
- Common release point.
- Flexible turret.
- Axial and right-angle mechanism.

KM80 XGL Static

- Compact and rigid.
- More than 14,000 lbs of clamping force.

Rotating Spindle

- Easily incorporated into machine tool applications.
- Over 5:1 mechanical clamping force.
- Front-loading design for easy access maintenance that reduces downtime.
- No gripping fingers or retention knobs to reduce long-term performance.

1. KM Spindle Cartridge
2. Canister
3. Clamping Balls
4. Lockrod
5. Canister Nut