# NEW SOLUTIONS FROM KURT



> NEW DX6 CrossOver Vise





> NEW DoveLock Quick Change Jaws



> NEW Toolroom Vise



> NEW HP MaxLock 5 Axis Vises



> NEW SCMX Self-Centering 5 Axis Vises



> NEW DTR DoveTail 5 Axis Vises

> NEW 5 Axis Vise Pallet Options





**VISES, BASES, PALLETS, TOMBSTONES, ACCESSORIES** 

# & NEW WORKHOLDING







#### **5 Axis Products**













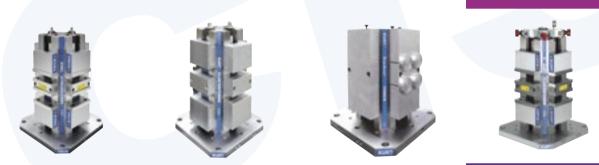
# **Single Station Vises**



# **Double Station Vises**



# **Cluster Tower® & Tombstones**



# **Specialty Vises**



# Accessories







# MaxLock™ HP420, HP440, & HP460 Vises

- Available with Serrated, Dovetail (D), or Carvable [C] jaws.
- · Serrated and Dovetail jaws have 3 different clamping areas, at the bed, in the middle of the jaw and at the top of the jaw. See table below.
- · Combats lift with new Kurt lift control system.
- ±0.0005" repeatability.
- 80,000 psi Ductile iron body for rigidity and vibration damping.
- Hardened ways.
- 4140 heat treated steel jaws.
- 3/4" screw diameter for strength.
- Heavy duty bolt down with 1/2" cap screws.
- · Screw internally hexed for a smaller footprint.
- Center line on vise easily adjusts to the center of the table
- Three sizes available: 5", 7", and 9" Long.
- · Patents pending.







**HP440-RISERKIT** 



**HP460-RISERKIT** 



# **DoveLock™ Dovetail 5 Axis Vise**

- DoveLock™ dovetail vise for 4 and 5 axis CNC machining with access to five sides of the workpiece.
- Manufactured from pre-hardened 4140 steel, the DoveLock maintains part rigidity and minimizes deflection or clamp creep when under high machining pressure.
- Reversible models allow for a wide range of dovetail widths.
- · High clamping screw location reduces deflection.
- Movable jaw slide is retained within the stationary jaw and creates more anti-deflection control.
- Embedded locating pin keeps part location accurate when applying side load pressure.
- Models available: Standard model DT20. Reversible jaw models DTR20 and DTR10.
- · Mounting base has pre-configured hole pattern to fit most machines.
- Easy part prep requires only 1/8" of material to hold workpiece in place.
- · Movable and stationary jaws are matched pairs.
- · Lifetime Iron Clad Warranty.



Optional Riser Bas for DT20 vise only Model: DT20-1





Additional pallet options availablecontact factory for details





# MaxLock™ 5 Axis Self-Centering Vise

- Vise for five axis machining.
- ±0.0002" repeatability.
- Adjustable Center Line.
- Machinable Jaws choice of aluminum or steel.
- The customer will machine in a step for higher accuracy eliminating the need for parallels.
- Holds up to a 6-1/2" long parts with model SCMX425.
- Clamp both OD and ID.
- Kurt AngLock design pulls the part down.
- 2-1/2" & 4" jaw widths.
- Tall jaws for increased spindle clearance.
- · Jaws are reversible.
- Flexible mounting options.
- Hex keys required for jaw removal: SCMX250: 5/64", 3/32" SCMX425: 3/32", 1/8"



### **Screw Selection Chart**

Part Number	Screw Length	Minimum Jaw Opening	Maximum Jaw Opening
*MX350-5-8	8.00	0.15	3.5
MX350-5-12	12.00	3.5	7.5
MX350-5-18	18.00	7.5	11.5
MX350-5-24	24.00	11.5	15.5

\*Comes standard with MX350-5-8 screw

### MaxLock™ MX350 Multi-Axis AngLock® Vise

- Kurt AngLock Design pulls the part down.
- Pull Type feature decreases stationary deflection.
- 0.625" stroke Allows for wider range of clamping before having to change setup.
- Modular Design Mounts on two inch grid patterns when removed from the riser and "T" slots or center hole grids 100 mm and under.
- When mounted in a two inch grid the vise comes with locator bolts for quick alignment.
- When mounted on the risers, precision 5/8 holes have been added so Kurt sine keys can be used for quick alignment.
- Auxiliary clamping slots allows the customer more flexibility in mounting the vise.
- The customer will finish machine the horizontal surface of the jaw plate for higher accuracy, eliminating the need for parallels.
- Machinable semi-hard steel jaws available in 3 lengths.
- The screw is easily manufactured and changed, by the customer, to allow a broad range of part sizes.
- Maximum of 40 Ft. Lbs. provides up to 7,000 Lbs. clamping force.
- Weight: 31 Lbs.
- Patented



### **BP8 5 Axis Adapter Plates**

- Designed to cover a wide range of vises and a wide range of tables.
- The mounting slots are designed to be covered up when a vise is mounted to keep clear of chips.
- An easier way to mount Kurt 5 axis vises to a machine table.
- · Weighs 13lbs.



# Mini ToolBlox™

- Designed to fit a wide range of machine tables.
- Easily handles a variety of KURT 5 axis vises and MiniLock systems.
- Machined from solid aluminum.
- Weighs only 22lbs. and easily handle by today's CNC machines.
- Mounting hardware for Matsuura Machines included.



# **NEW**



### Kurt DX6® CrossOver® Vise

# Introducing the Kurt DX6® CrossOver® Vise

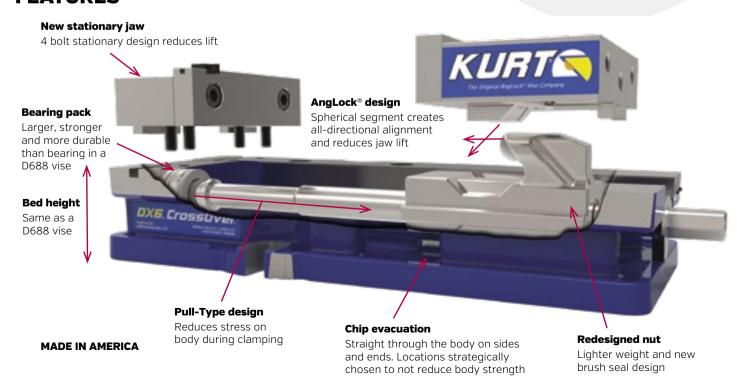
The evolutionary DX6® CrossOver® Vise combines all the great features of the world-renowned KURT D688 and 3600V vises, along with new state-of-the-art workholding features. DX6® CrossOver® achieves new levels in precision and performance where flatness and parallelism are important and is a better vise than our own D688 in every way we measure a vise. With KURT'S MADE IN AMERICA commitment, the DX6® CrossOver® is destined to become the go-to-vise for today's machining applications.

### DX6® CrossOver® Features:

- DX6® CrossOver® vise is a combination of AngLock®, Pull-Type and 4 bolt stationary jaw design. When combined they create an ultra unique strategy for a better vise:
  - AngLock® design reduces stress on body during clamping
  - Pull-type design reduces stress on body during clamping
  - 4 bolt design reduces stationary jaw deflection and alleviates body stress
- 2. Hardened vise bed/jaw plates
- 3. Semi-hard steel screw
- 4. 80,000 psi ductile iron body, nut and movable jaw
- 5. Large 9" opening
- 6. New wider 4 bolt stationary design fastens from the top
- 7. Bolts & locates on 40mm, 50mm and 2" grid patterns

- 8. Accepts sine keys for alignment [not included]
- 9. Chip evacuation straight through the body
- 10. Screw support held in place with snap rings
- 11. Groove Lock® jaw plate and workstop included
- 12. New brush seal design makes it easier to replace
- 13. Includes chip quard
- 14. Powder coat paint is long lasting and durable
- Matching of the bed heights or keyway to stationary jaw [additional cost]
- 16. Fits on D50-4-SA swivel base
- 17. Lifetime Iron Clad Warranty

# **FEATURES**







### Models: DX4 CrossOver® Vise

The evolutionary DX4 CrossOver® Vise combines all the great features of the world-renowned KURT D40 and 3400V vises, along with new state-of-the-art workholding features. DX4 CrossOver achieves new levels in precision and performance where flatness and parallelism are important and is a better vise than our own D40 in every way we measure a vise. With KURT'S commitment, the DX4 CrossOver is destined to become the go-to-vise for today's machining applications.



### **D810 & DM810 (Metric)**

Kurt's D810 features a new updated body style:

- Quick Set-up feature.
- Top down, four bolt design on the stationary jaw reduces vise deflection by 25 percent while allowing total disassembly of the vise without removing the body from the machine table. Special brush seals shield and protect vise screw threads from machined chips and residue.
- The nut has been shortened so as not to protrude past the end of the vise body. New powder coat paint finish resists coolantinduced peeling for greater corrosion protection. The overall vise footprint is identical to earlier models so both can be used interchangeably and in tandem.
- With a jaw opening of 10" and clamping force up to 11,600 Lbs., the D810 vise locks parts precisely including very large parts for aggressive "hogging out" operations.



# D100

The D100 is the largest and strongest of our general purpose vises. With 9-3/4" of jaw opening, it has the capacity and strength to take on your highest horsepower milling cuts. It's the most precise and rugged 10" production vise in the world.



- New hydraulic model is capable of: Single acting with spring return for unclamp, or Double acting with hydraulic unclamp. Includes fittings for both configurations.
- Threaded ports on body: Female 1/8" NPT
   Included adapters: Male 1/8" NPT to Male #4 JIC, quantity of two

### **HDM690 Vises**

- A full 9 inch opening between jaws when using standard hard jaw
- Less deflection of stationary jaw. Wider more stable stationary jaw equals less deflection.
- Stationary jaw bolts down from top. No need to remove from table to disassemble vise. Bolting the stationary from the top reduces the stress in the body and will stay flatter after assembly.
- · Narrower body width allows more vises in the same work envelope.
- Taller body design equals less deflection under clamping loads.
- Bolts and locates directly on standard grid plates: 40mm, 50mm or 2 inch.
- Pull type body design reduces stress in the body resulting in more
- Quick change movable jaw. The HD platform movable jaw allows for quick change and carvability to hold that odd shaped part.
- Groove Lock jaw and workstop included.
- Uses sine keys for alignment.
- Swivel base available. Part No. D50-4-SA
- Bed height matched ±0.0005"
- Weight: HD690/HDM690 [75 Lbs.], HDH690 [80 Lbs.]
- · Patented.





### VersatileLock® Vises

### Manual (3400V) and Hydraulic (3400H)

The VersatileLock vise is the industry's ultimate single station CNC vise. It offers ultra-precision function through these important design features: The original, time proven Kurt AngLock design prevents parts from lifting upward under heavy clamping loads. The "pull-type" jaw clamping reduces stationary jaw deflection by at least 80%. The one piece vise body and stationary jaw provide greater strength while reducing weight.

### Features:

- Full 6" Opening.
- Can be mounted upright (3400V) or on either side.
- Matched stationary jaw to keyway including the body height ±0.001".
- 0.0005" clamping repeatability.
- Footprint is less than 13". Ideal for the smallest machines.
- All hydraulic units feature a 1/4" vise stroke.
- Groove Lock workstop included.

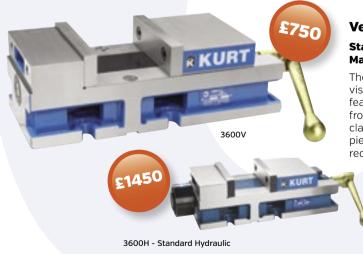


# VersatileLock® Vises Reverse Manual (3410V) and Reverse Hydraulic (3410H)

Use the VersatileLock in this configuration for the added benefit of easier part programming in "Y axis" positive direction. It also reduces the "reach-over" distance making part loading safer and easier for the operator.

### Features:

- Full 6" Opening.
- Can be mounted upright or on either side.
- Matched stationary jaw to the keyway including the body height ±0.001".
- 0.0005" clamping repeatability.
- Footprint is less than 13". Ideal for the smallest machines.
- All hydraulic units feature a 1/4" vise stroke.
- Groove Lock workstop included.
- Weight: 3410V (28 Lbs.)/ 3410H (31 Lbs.)



3600A - Standard Air

### **VersatileLock® Vises**

### Standard (3600) and Short (3620) Manual, Hydraulic, and Air Models

The VersatileLock vise is the industry's ultimate single station CNC vise. It offers ultra-precision function through these important design features: The original, time proven Kurt AngLock design prevents parts from lifting upward under heavy clamping loads. The "pull-type" jaw clamping reduces jaw stationary deflection by at least 80%. The one piece vise body and stationary jaw provide greater strength while reducing weight.

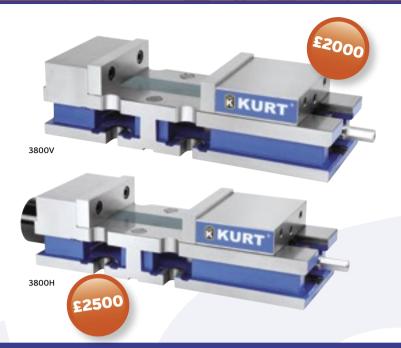
### Features

- Can be mounted upright or on either side.
- Matched stationary jaw to keyway including the body height  $\pm 0.001$ ".
- 0.0005" clamping repeatability.
- Footprint on the short version is 13". Ideal for the smallest machines.
- All air and hydraulic units feature a 1/4" vise stroke.
- Air vise has a precise and repeatable "gentle touch" for delicate parts.
- Optional internal hex available for 3600V only. (3600V-INT).
- Patented

www.cis-tools.co.uk All prices are subject to VAT

2000





### VersatileLock® Vises

### Manual (3800V) and Hydraulic (3800H)

The VersatileLock vise is the industry's ultimate single station CNC vise. It offers ultra-precision function through these important design features: The original, time proven Kurt AngLock design prevents parts from lifting upward under heavy clamping loads. The "pull-type" jaw clamping reduces stationary jaw deflection by at least 80%. The one piece vise body and stationary jaw provide greater strength while reducing weight.

### Features:

- Full 10" opening.
- Can be mounted upright (3800V) or on either side.
- Matched stationary jaw to keyway including the body height  $\pm 0.001$ ".
- 0.0005" clamping repeatability.
- All hydraulic units feature a 1/4" vise stroke.



# VersatileLock® Vises Reverse Manual (3810V) and Reverse Hydraulic (3810H)

VersatileLock vises are available in reverse configuration for the added benefit of easier part programming in "Y axis" positive direction. It also reduces the "reach-over" distance making part loading safer and easier for the operator.

### Features:

- Full 10" opening.
- Can be mounted upright (3810V) or on either side.
- $\bullet$  Matched stationary jaw to the keyway including the body height  $\pm 0.001^{\circ}.$
- 0.0005" clamping repeatability.
- All hydraulic units feature a 1/4" vise stroke.



The 3600V shown mounted "back to back". Makes a fast, easy and economical vise tombstone. Bases can be tailored for most HMC's.





# HDL AngLock® Vises **Manual & Hydraulic**

4 Inch Base Models: 6 Inch Base Models: HDLM4 Manual Metric HDLM6 Manual Metric HDHLM4 Hydraulic HDHLM6 Hydraulic

The HDL AngLock Vises are high density long vises with two clamping stations. They provide repeatable clamping to 0.0002" and combine high density with heavy duty features. Designed on a rugged 80,000 PSI ductile iron body with steel components, both models provide strength, rigidity and long term accuracy while absorbing machining vibration.









(shown with optional aluminum jaws)

### **HDL CarvLock® Towers**

Manually or Hydraulically operated, eight station HDL Cluster Tower system features a ductile iron integral vise tower. Designed for use on mid-size and larger machining centers including horizontal and vertical machining centers with a fourth axis and indexable tables. This workholding system achieves workpiece immobility while damping cutter induced vibration.

#### **Features**

- High density vise tower system. Hold multiple parts in eight clamping stations. Increase part volume.
- Repeatable clamping to 0.0002". 4 inch model delivers up to 5,870 Lbs. each station at 60 Ft Lbs of torque. 6 inch model delivers up to 7,460 Lbs. of clamping force at 70 Ft Lbs of torque.
- Self-adjusting holding block of either front or back jaw for clamping the same or dissimilar sized parts. To further enhance fast operation, an adjustable pre-load feature reduces handle turns for opening and closing clamping stations.
- Ductile iron column ensures strength, rigidity and long term accuracy.
- Jaw options available to fit your application. Select from Hard jaws, Machinable aluminum jaws, Machinable ductile Iron jaws.
   See pages 38-41.
- Jaws are indexable 180 degrees.
- Aluminum fixture plate available See pages 40-41.
- Elevated column makes clearing chips and contaminants fast and easy.
- · Lifetime Iron Clad Warranty.
- Optional clutchless design available for lower clamp force applications. Call factory.

**4 Inch Base Models:** CTHDLM443 Metric

CTHDLM443 Metric

CTHDLM444 Metric
CTHDLM445 Metric

6 Inch Base Models: CTHDLM644 Metric

CTHDLM645 Metric CTHDLM646 Metric



# **HDL CarvLock® Towers**

### CTHDHL64 Hydraulic Tower - English CTHDHLM64 Hydraulic Tower - Metric

This hydraulically operated eight station tower features all-new design for fast loading of parts. All internalized hydraulic piston/nut saves valuable space. Includes all original KURT AngLock precision clamping and iron clad rigid construction for damping vibration.

### Features:

- Hydraulically operated eight station CTHDHLM64 Cluster Tower.
- Utilizes an all internal hydraulic piston nut to conserve space.
   Pressure is maintained until released by operator or triggering device. Easy disconnect for pallet shuttle.
- Repeatable clamping to 0.0002". Each station delivers up to 7,100 Lbs. of clamping force at 4,500 PSI.
- Each face is controlled separately for convenient part loading and removal.
- Jaw opening is 4" per station.
- Each face has a maximum total stroke of 1/4" [1/8" per station].
- Jaw options available: Hard jaws, machinable aluminum. machinable ductile iron. See pages 38-41
- Base sizes available: 400mm, 500mm, 630mm.
- · Lifetime Iron Clad Warranty





### SideWinder™

### Model: SDW25II

The Kurt SDW25II SideWinder is a vise that mounts vertically to the back of any Kurt industry standard 6" vise. The SideWinder includes a stabilization leg that will mount to the table on the movable end of the vise and a workstop to position the height of the part.

### Purpose

For doing 2nd op work holding the part vertically rather than horizontally.

### Advantage:

- Saves set up time for 2nd op vertical work
- Machining can be done on both vises in the same setup
- Vise is at an elevated position which is more conducive to longer reach machining
- Has a stabilizer foot for vibration control
- Can be mounted to the back of any Kurt industry standard 6" vise
- Does not interfere with the host vise
- Pull type vise
- AngLock design
- · Patent Pending



# SideWinder™

# Model: SDW35

The Kurt SDW35 SideWinder is a vise that mounts vertically to the back of any Kurt industry standard 6 or 8" vise. The SideWinder includes a stabilization leg that will mount to the table on the movable end of the vise and a workstop to position the height of the part.

### Purpose

For doing 2nd op work holding the part vertically rather than horizontally.

### Advantages:

- Saves set up time for 2nd op vertical work
- Machining can be done on both vises in the same setup
- Vise is at an elevated position which is more conducive to longer reach machining
- Has a stabilizer foot for vibration control
- Can be mounted to the back of any Kurt industry standard 6" or 8" vises. [Included spacer required when mounting to a 3800 series vise]
- Does not interfere with the host vise
- Pull type vise
- AngLock design
- Patent Pending

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### **Kurt Toolroom Vise**

### Model: KTR35

An extremely versatile vise that can fit on the smallest machine tables with ease. The overall length including hex is 10.125" and weighs only 20 pounds. The jaw is 3.470" wide with a maximum opening of 3.81" on the bed, and 4.06" in step of jaw. The vise is fully chip guarded. Mounting can be accomplished through the body or with outrigger toe clamps mounted to the outside of the body (sold separately). All sides of the vise are ground and can easily be mounted on its side with the toe clamps (sold separately). Four cavities in the ends of the body make mounting this vise with the toe clamps very quick and easy. By using a receiver vise this vise can be used as a sine vise with 30, 45 and 60° angles build into the side of the body on the stationary side. To utilize this feature remove the triangular shaped magnets and place the dowel pins in the proper holes to get the angle you desire.

### Features:

- Jaw Width: 3.470"
- Jaw Height Overall: 1.235"
- Jaw Height to Step: 1.118"
- Max Opening: 4.060"
- Max Clamping Force: 4,500 Lbs.
- Hex Size: 0.561"
- Overall Vise Length: 10.125"
- Base Height: 2.000"















# **2MWS Magnetic Workstop**





### Features:

- Fast, accurate positioning of parts.
- Rare earth magnet attaches anywhere on the workholding setup without the need for connecting bolts or screws.
- Removes quickly to clear spindle travel when necessary.
- 12 Lbs of pull.

- Body is 2 5/8" long with 2" adjustable stop pins on both ends of body.
- Ideal for single, multiple station vises and high density workholding setups.
- 1 Lb. weight.

# **Kurt Speed Handle D60SH**



The Kurt Speed handles reduce set-up and clamp times. The D60SH with a 3/4 internal hex will fit all our 6 inch model vises. Our handles do not interfere with the milling machine giving you rapid part loading and unloading. You get Kurt's quality in a custom steel designed product. There is no aluminum hex to strip. 4 Lbs.

£95

# **Kurt Torque Handle TH6**



The Kurt Torque Handle provides repeatable clamping for small delicate parts. The Torque Handle fits a 3/4" Hex and gives you a precise feel while providing an audible "click". The small 10-3/4" overall length will not interfere with most table set-ups and the steel construction will give you the versatility and reliability demanded by today's modern machine shops. A set screw allows your Torque Handle to become an integral part of your vise. 4 Lbs.

Torque Vs. Position					
Position	1	2	3	4	
Torque Ft. Lbs.	6	8	10	20	

Torque Tolerance ±2 Lbs.

£225

# **Replacement Vise Handles**



Kurt original equipment handles are solid cast iron for strength and durability and are plated for rust protection. The handle portion is one-piece with a cast ergonomic ball on the end.



Part #	Hex	Length
D40I-10-SA	9/16	6 In.
D60I-10-SA	3/4	8-5/8 In.
D80I-10-SA	7/8	16-1/8 In.
D100I-10-SA	1	16-1/8 In.

# KH6 and KH8 Handle Hangers

Never lose a vise handle again. New Kurt Vise Handle Hanger.

- Models KH6 (for 6" handles) and KH8 (for 8" handles)
- Made from high strength Thermoplastic
- Mount to workbenches, tool carts, cabinets or any surface near machine tables.
- Creates a convenient holding spot for quick access to vise handles.







DTR DoveLock 5 axis vise mounted on a Kurt Pallet



XL vises mounted back-to-back



SeraLock Towers for high density



DoveLock jaws used for glass machining



MaxLock 5 axis vise mounted in a Kurt vise used as a receiver.

MaxLock 5 axis vise used for turbine blade machining



Air powered vise used in a robotic cell



Cluster Tower using fixture plate & Soft jaws



Dovelock jaws provide 1 minute changeover

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