

VICES, BASES, PALLETS & TOMBSTONES

5 AXIS WORKHOLDING

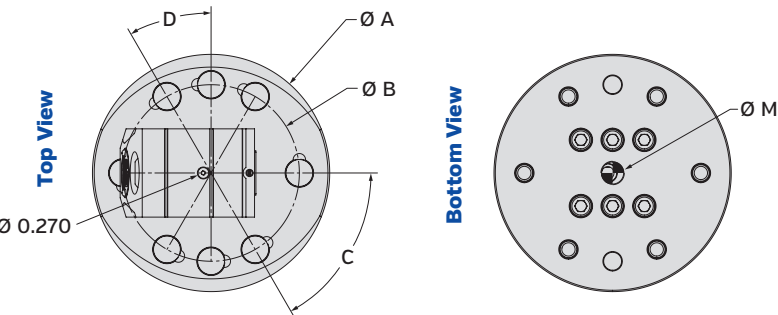


KURT 
The Original AngLock® Vise Company

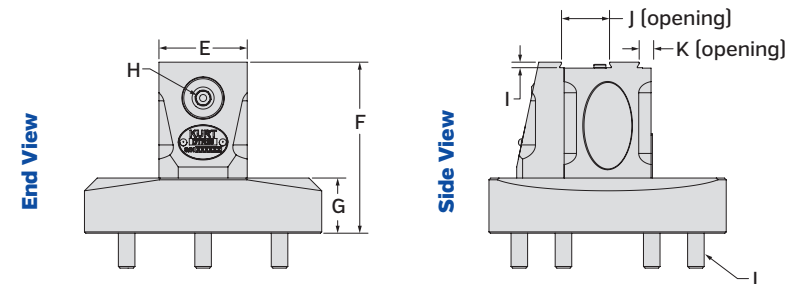
DoveLock™ Dovetail 5 Axis Vise



- 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.



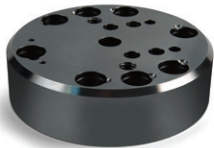
	DTR20	DTR10	DT20
ØA	5.38	2.69	4.47
ØB	4.00	2.00	3.50
C	60°	60°	60°
D	30°	30°	30°
E	2.00	1.00	2.00
F	3.875	2.00	3.75
G	1.25	0.625	1.25
H	1/2-13 BHSCS	1/4-20 BHSCS	1/2-13 BHSCS
I	0.125	0.125	0.125
J [opening]	1.09 – 1.65	0.52 – 0.80	1.18 – 1.68
K [opening]	0.33 – 0.88	0.29 – 0.57	NA
L	3/8-16 SHCS	10-32 SHCS	3/8-16 SHCS
ØM (slip fit dowel)	0.500	0.250	0.500
Est Ship Weight	11 Lbs	1.5 Lbs	8 Lbs



CLAMP FORCE DT20 DTR20	
Inch Pounds	Pounds of Force
80	1,000
160	2,000
240	3,000
320	4,000



Dovetail Cutter
Model: DT20-1



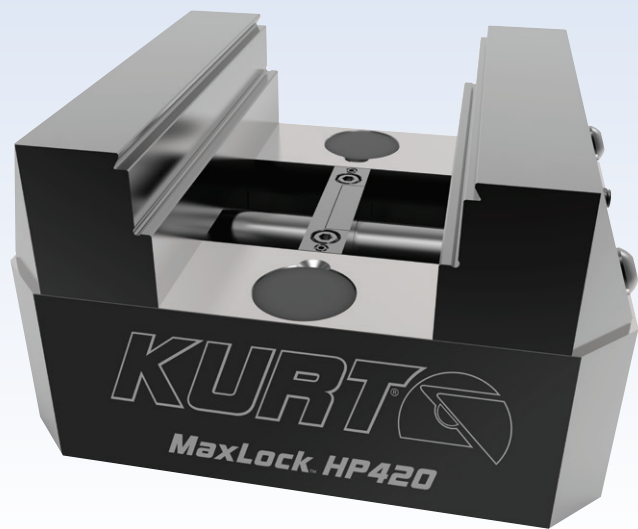
Optional Riser Base
for DT20 vise only
Model: DT20-1

DT20-1 RISER BASE	
Riser Height	1.250"
Riser Diameter	4.47"
Weight	5 Lbs.



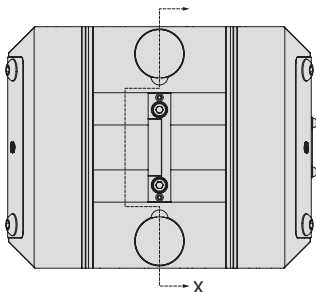
Additional pallet options available-
contact factory for details

MaxLock™ HP420 Vise

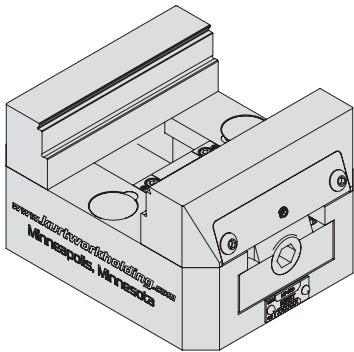
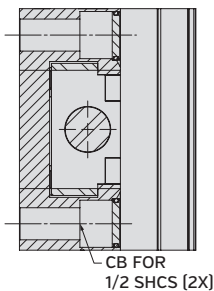


- Designed with 2 sets of jaws, Serrated and Dovetail (shipped with serrated jaws).
- Each set of jaws has 3 different clamping areas, at the bed, in the middle of the jaw and at the top of the jaw. See table below.
- Combats lift with new Kurt lift control system.
- ±0.0005" repeatability.
- 80,000 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 rotation.
- Three sizes available: 5", 7", and 9" Long.
- Estimated Ship Weight: 10 Lbs. [HP420]
- Clamps both OD and ID.
- Patents pending.

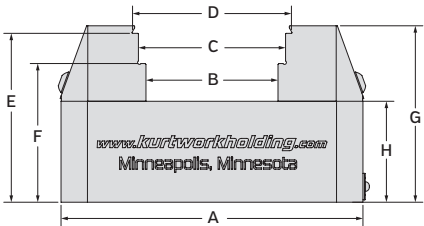
Top View



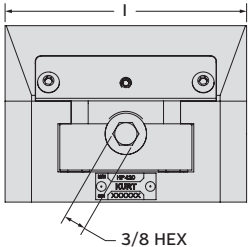
Section X-X



Side View



End View



CLAMPING FORCE RANGE	
Inch Pounds	Pounds of Force
10	500
20	1,200
30	1,900
40	2,500

Model	Jaw Type	A	B	C	D	E	F	G	H	I
HP420	Dovetail	5.000	0.600 - 2.190	0.310 - 2.440	0.500 - 2.630	2.797	2.297	2.922	1.672	4.000
	Serrated				0.560 - 2.690					
HP440	Dovetail	7.000	2.600 - 4.190	2.310 - 4.440	2.500 - 4.630	2.797	2.297	2.922	1.672	4.000
	Serrated				2.560 - 4.690					
HP460	Dovetail	9.000	4.600 - 6.190	4.310 - 6.440	4.500 - 6.630	2.797	2.297	2.922	1.672	4.000
	Serrated				4.560 - 6.690					

MaxLock™ 5 Axis Vise



Shown with optional riser base

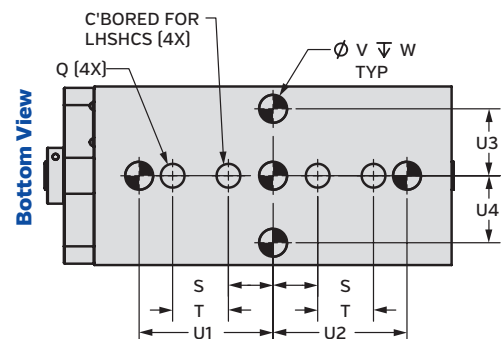
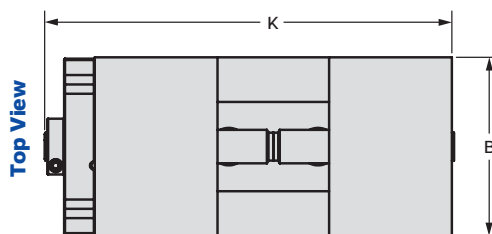
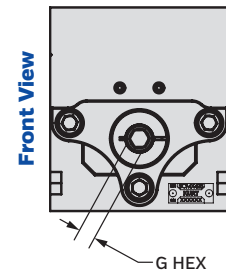
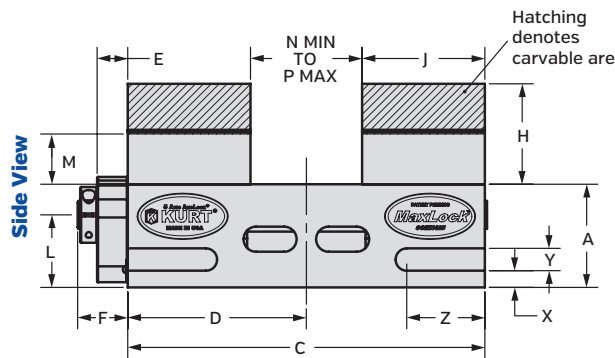
- Self-centering vise for five axis machining.
- ± 0.0002 " repeatability.
- Adjustable Center Line.
- Machinable Jaws – choice of aluminum or steel.
- The customer will machine in a step for higher accuracy eliminating the need for parallels.
- Holds up to a 6-1/2" long parts with model SCM425.
- Clamp 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:
SCM250: 5/64", 3/32"
SCM425: 3/32", 1/8"



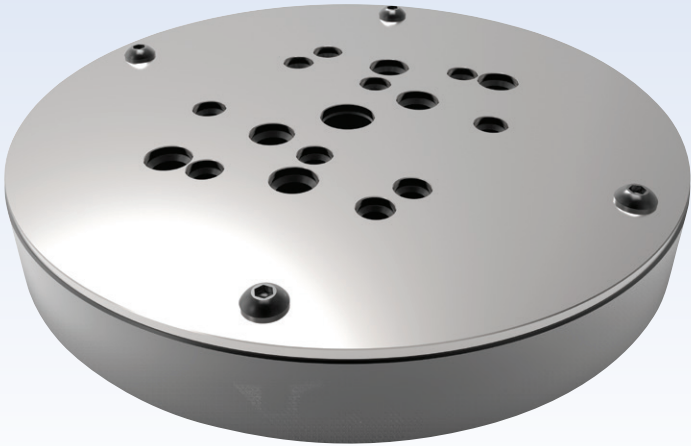
Optional riser bases:
SCM250-RISERKIT
SCM425-RISERKIT

Optional mounting
pallets – contact
factory for options

DIMENSIONAL DATA			SCM250 CLAMPING FORCE LBS.		SCM425 CLAMPING FORCE LBS.		JAW KITS (INCLUDES TWO JAWS)				
	SCM425	SCM250	Ft. Lbs	Lbs Force	Ft. Lbs	Lbs Force	Part Number	Length	Width	Height	Weight
A	2.313	2.000	10	350	10	500	SCM250AL-JAWKIT Aluminum Jaw Kit	2.00	2.50	1.50	2
B	4.000	2.500	20	750	20	1,000	SCM425AL-JAWKIT Aluminum Jaw Kit	2.75	4.00	2.25	5
C	8.000	5.000	30	1,300	30	1,500	SCM250C-JAWKIT Steel Jaw Kit	2.00	2.50	1.50	4
D	4.000	2.500	40	1,800	40	2,000	SCM425C-JAWKIT Steel Jaw Kit	2.75	4.00	2.25	12
E	0.69	0.69			50	2,500					
F	1.12	1.11			60	3,000					
G	3/8	5/16									
H	2.25	1.50									
J	2.75	2.00									
K	9.12	6.11									
L	1.625	1.344									
M	1.125	0.940									
N	0.000	0.000									
P	2.500	1.000									
Q	0.531 Ø	0.406 Ø									
S	1.000	1.000									
T	1.250	-									
U1	3.000	-									
U2	3.000	2.000									
U3	1.500	-									
U4	1.500	-									
V	0.625	0.375									
W	0.688	0.500									
X	0.375	-									
Y	0.500	-									
Z	1.750	-									
Est Ship Weight	30 Lbs	10 Lbs									



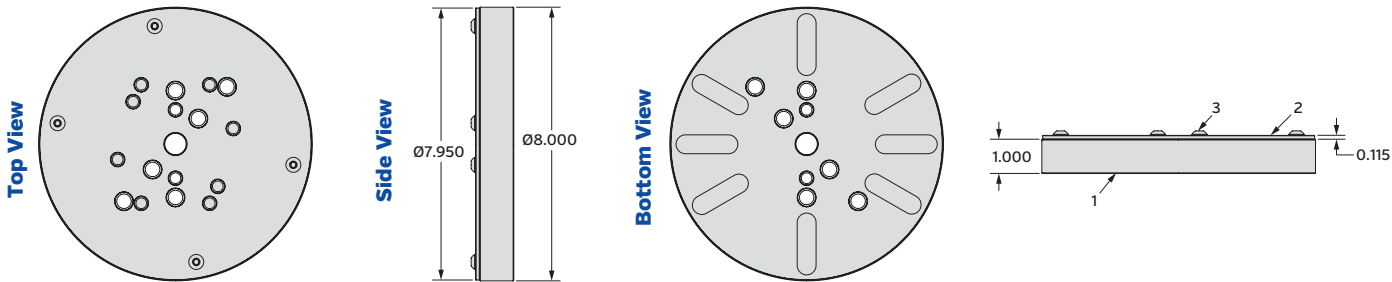
BP8 5 Axis Adapter Plates



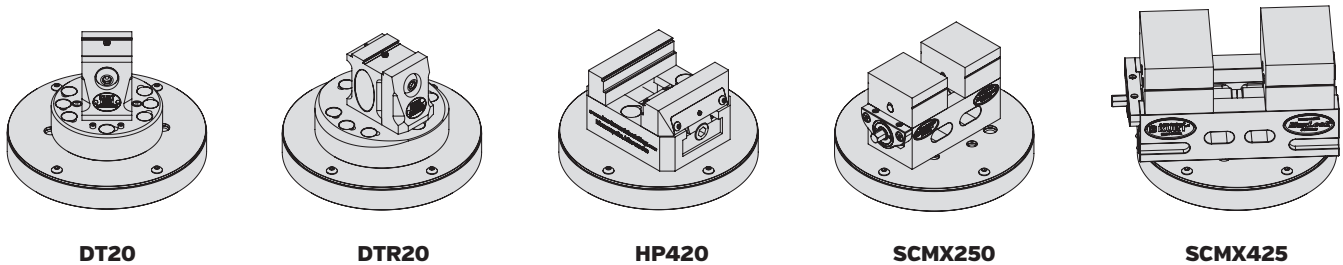
- Designed to cover a wide range of vises and a wide range of tables.
- The mounting slots are designed to be covered up when a vise is mounted to keep clear of chips.
- An easier way to mount Kurt 5 axis vises to a machine table.

Model	Locating Spud Ø	Locating Spud	Mounting Bolts
DT20	0.5000	BP8-277-2	3/8-16 X 1.375 LG S.H.C.S.
DTR20	0.5000	BP8-277-2	3/8-16 X 1.375 LG S.H.C.S.
HP420	0.5000	BP8-277-2	1/2-13 X 1.875 LG S.H.C.S.
SCMX250	0.3750	BP8-277-1	3/8-16 X 1.25 LG L.H.S.H.C.S.
SCMX425	0.6250	BP8-277-3	1/2-13 X 1.50 LG L.H.S.H.C.S.

Item No.	Part Number	Qty	Description
1	BP8-244 [5 Axis 8.0 Base Plate]	1	8 Inch Round Base Plate
2	BP8-53 [5 Axis 8.0 Base Plate Cover]	1	Base Plate Cover
3	03-0133	4	SBHCS 1/4-20 X 1/2 LG



Example Setups



MaxLock™ Multi-Axis AngLock® Vise

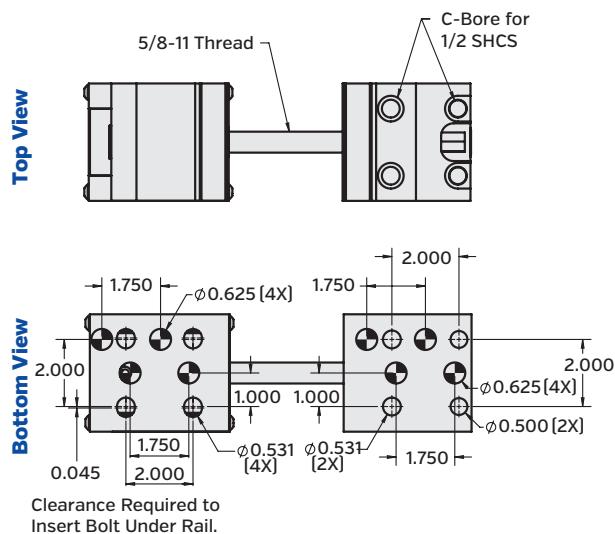
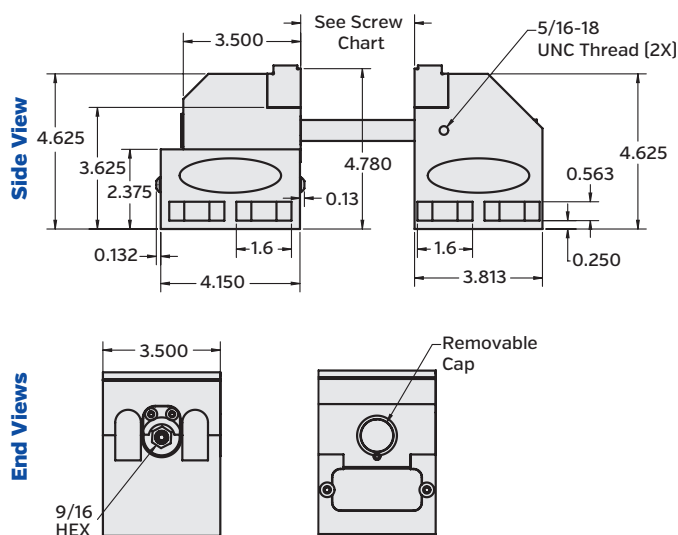


- Kurt AngLock Design pulls the part down.
- Pull Type feature decreases stationary deflection.
- 0.625" stroke – Allows for wider range of clamping before having to change setup.
- Modular Design – Mounts on two inch grid patterns when removed from the riser and "T" slots or center hole grids 100 mm 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.
- Ship Weight: 31 Lbs.

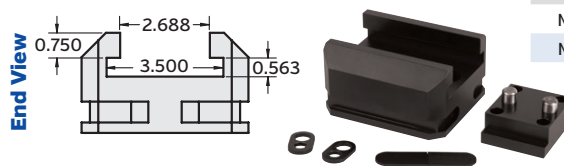
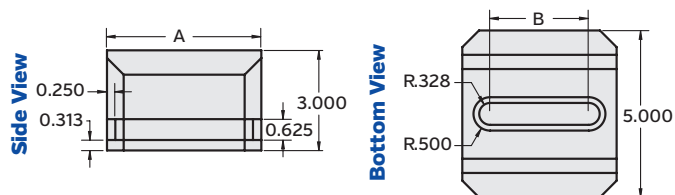
Screw Selection Chart

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

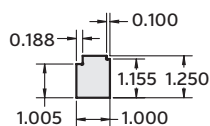


Optional Risers Part No MX350RL and MX350RS



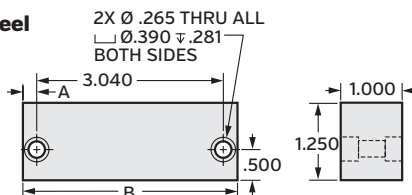
Part Number	A	B
MX350RS	4.625	2.95
MX350RL	5.650	3.97

MX350-236 Jawplate



Machinable Jaw Semi-Hard Steel

Part Number	A	B
MX350-235-35	0.230	3.50
MX350-235-45	0.730	4.50
MX350-235-55	1.230	5.50

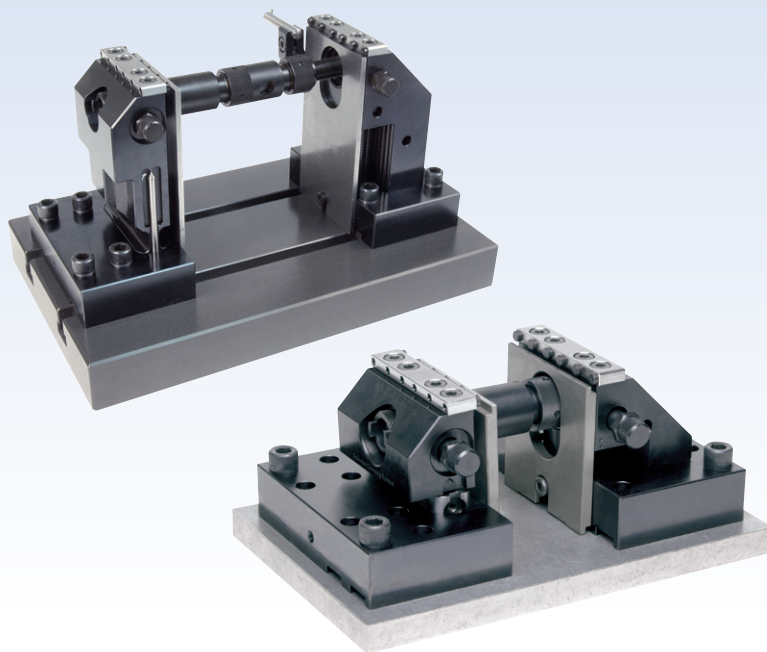


Options:

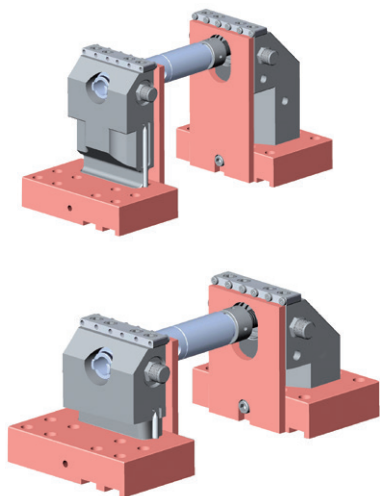
MX350-236 Double
Step jawplate

MX350-236-1 Double
Step Jawplate w/CBN
Coating

VB Schenke Clamping System



- High clamping force (up to 40 kN) exactly where it is needed, by incorporating the tension spindle directly below the work piece support.
- Form fit clamping with embossing pins. No pre-embossing required.
- No flare out of the jaws under tension, no distortion on machine table.
- Extreme rigidity permits maximum cutting forces.
- The special design and a clamping depth of just 8 mm permits obstruction free machining on 5 sides.
- Any desired clamping width, limited only by the size of the machine table. The two clamping jaws, one fixed and one moving, can be positioned at any desired distance from each other.
- Clamps blank work pieces, machined work pieces, round and irregularly formed work pieces.
- 5AX100 clamping system can be mounted on T-slot or location grid machine tables or any custom fixture.

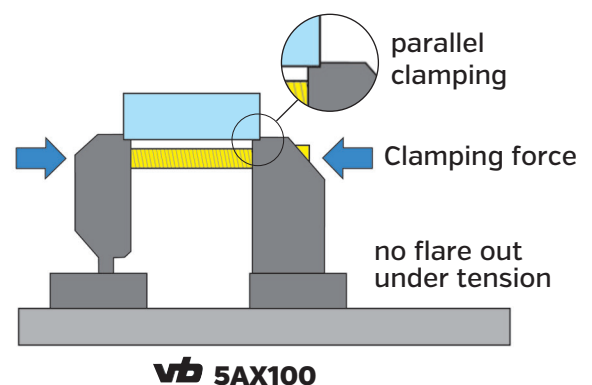
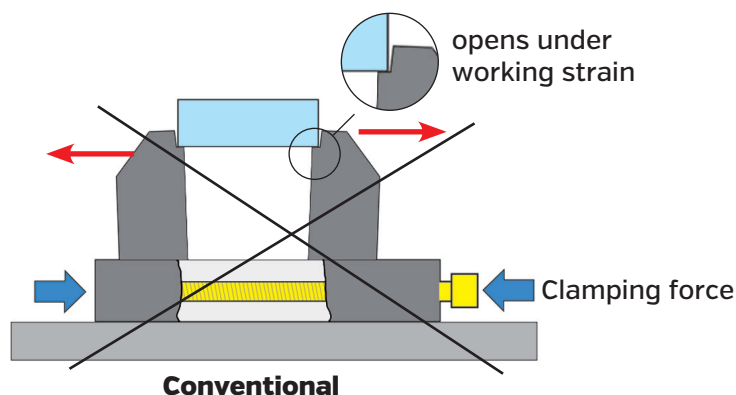


Technical Data	VB 5 AX 100-H 740-01-000-51	VB 5 AX 100-L 740-01-003-61
Clamping Height above machine table [CH]	175 mm* [6.889"]	100 mm* [3.937"]
Extended height +25 mm see pos.9 [Parts No. 740-04-025-00]	200 mm [7.874"]	125 mm [4.921"]
Extended height +50 mm see pos.9 [Parts No. 740-04-050-00]	225 mm [8.858"]	150 mm [5.906"]
Jaw width	100 mm [3.937"]	100 mm [3.937"]
Clamping force on work piece	5 - 40 kN [1124-8992 Lbs]	5 - 40 kN [1124-8992 Lbs]
Clamping width with standard set	20 - 236 mm [0.787" - 9.291"]	20 - 236 mm [0.787" - 9.291"]
Clamping depth	8 mm [0.315"]	8 mm [0.315"]
h	36 mm [1.417"]	36 mm [1.417"]
l	see parts list	see parts list
b	98 mm [3.858"]	98 mm [3.858"]

* The clamping height of the 100 mm or 175 mm respectively can be raised by using the mounting block raise.

740-04-025-00 25mm raise
740-04-050-00 50mm raise

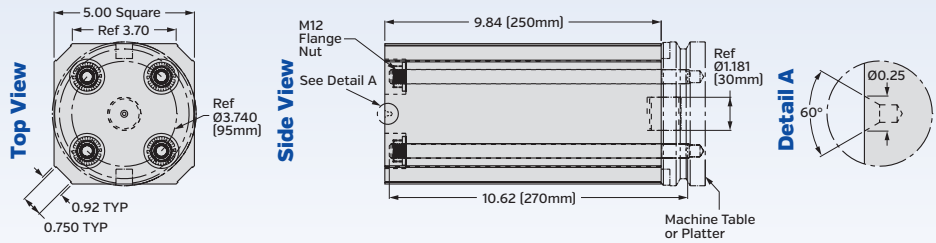
The clamping force is generated right where it is needed



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.



MiniLock Clamps



- Ideal for use with KURT Mini Tombstones or for palletizing small parts to be loaded into receivers.
- When a quarter turn is applied to the screw, the split clamp jaw is forced both laterally and down, precisely clamping the part and preventing part lift.
- Clamping jaw made from rugged Ampco 18 aluminum bronze.
- Actuating screw is made from a special alloy steel.
- Steps may be machined into the clamp jaw for to raise parts above surface.
- The low profile allows for machining of top surfaces.
- Standard thread sizes and standard hex keys.
- One MiniLock package contains six MiniLocks.

Model Number	Hex Size	Hex Thickness	Screw Size	Hex Wrench Size	Screw Length	Suggested Tapped Hole Loc. From Edge of Part	Min. Distance From Screw CL	Max Distance From Screw CL	45° Thread Chamfer Dia.	Max part Size Differential Double Clamp	Optional C'Bored Tapped hole use for Larger part Tolerance Differential				Torque Ft. Lb.	Clamping Force Lbs.
											C'Bore Dia. +0.015-0.005 [-.39-.13mm]	C'Bore Depth ±0.020 [±.50mm]	Max part Size Differential Double Clamp	Approx. Thread Engagement		
INCH MODELS																
MT4	0.688	0.188	1/4-20	0.156	0.625	0.324	0.308	0.350	0.300	0.010	0.281	0.156	0.020	0.250	11	987
MT5	0.875	0.250	5/16-18	0.188	0.750	0.412	0.384	0.442	0.368	0.010	0.344	0.203	0.020	0.283	18	1,400
MT6	0.938	0.312	3/8-16	0.218	1.000	0.439	0.400	0.482	0.437	0.010	0.406	0.375	0.020	0.307	30	2,200
MT8	1.125	0.375	1/2-13	0.312	1.250	0.528	0.492	0.584	0.500	0.010	0.531	0.468	0.020	0.384	83	2,600
METRIC MODELS																
MTM4	17.476	4.776	M6 x 1	3.963	15.875	8.230	7.824	8.890	7.620	0.254	7.138	3.963	0.508	6.350	11	987
MTM5	22.250	6.350	M8 x 1.25	4.776	19.050	10.465	9.754	11.227	9.348	0.254	8.738	5.157	0.508	7.189	18	1,400
MTM6	23.826	7.925	M10 x 1.5	5.538	25.400	11.151	10.160	12.243	11.100	0.254	10.313	9.525	0.508	7.798	30	2,200
MTM8	28.575	9.525	M12 x 1.75	7.925	31.750	13.412	12.497	14.834	12.700	0.254	13.488	11.888	0.508	9.754	83	2,600

Kurt® Manufacturing

Industrial Products Division

9445 E. River Road NW, Minneapolis, MN 55433

Phone 763.574.8309 Toll Free Phone US & Canada 1.877.226.7823

Fax 763.574.8313 Toll Free Fax US Only 1.877.226.7828

email workholding@kurt.com

www.kurtworkholding.com



The Original AngLock® Vise Company