

**VICES, BASES, PALLETS & TOMBSTONES**

***5 AXIS WORKHOLDING***



# 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 rotation.
- Three sizes available: 5", 7", and 9" Long.
- Estimated Ship Weight: 10 Lbs. [HP420]
- Patents pending.

Clamping Force Range	
Foot Pounds	Pounds of Force
10	500
20	1,200
30	1,900
40	2,500

## MaxLock™ HP Optional Risers



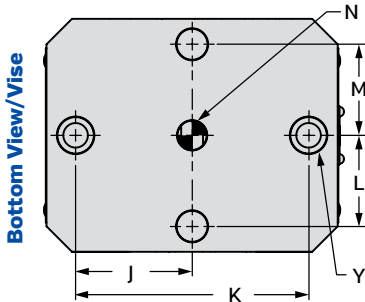
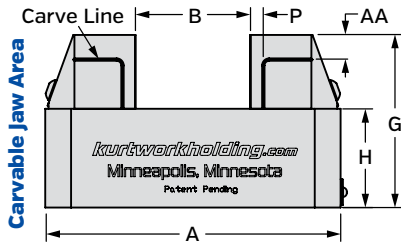
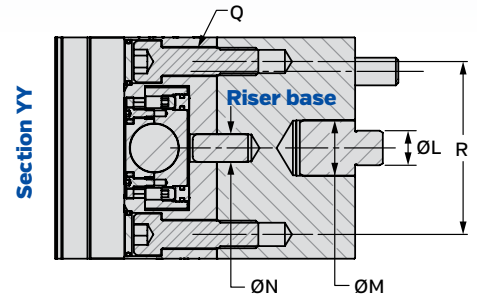
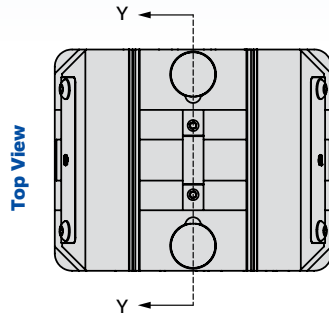
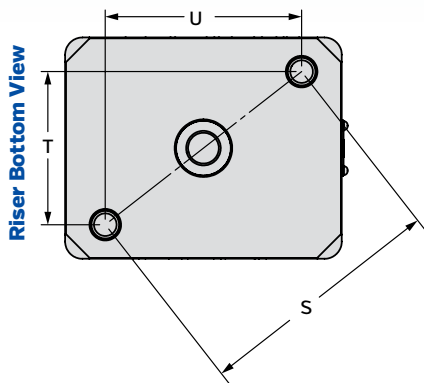
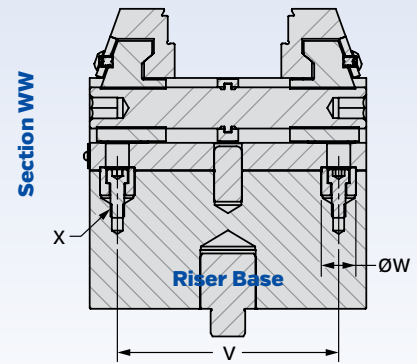
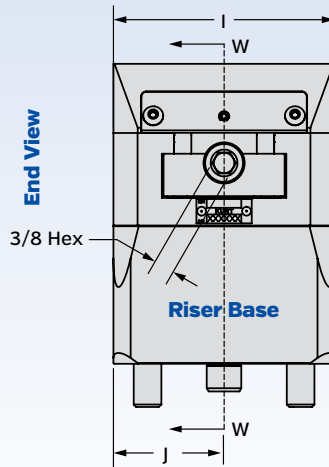
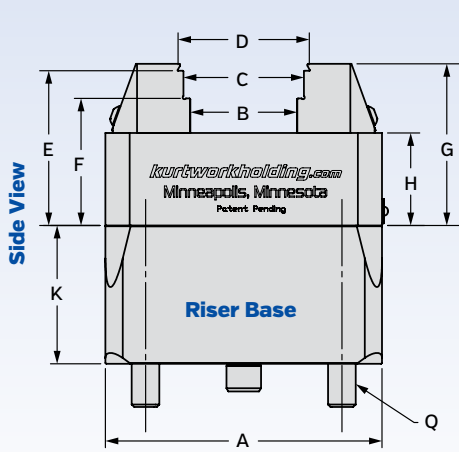
**HP420-RISERKIT**



**HP440-RISERKIT**



**HP460-RISERKIT**

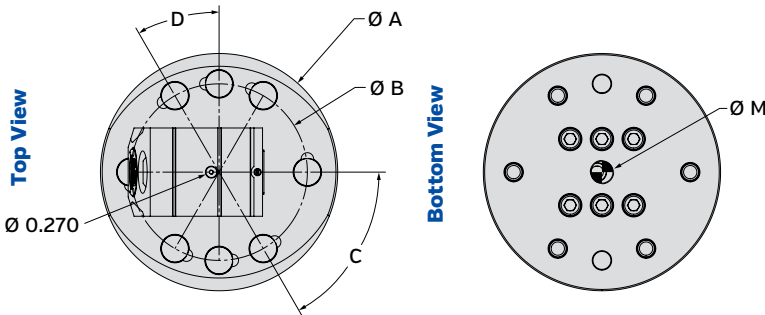


Model	HP420	HP420D	HP420C	HP440	HP440D	HP440C	HP460	HP460D	HP460C
Jaw Type	Serrated	Dovetail	Carvable	Serrated	Dovetail	Carvable	Serrated	Dovetail	Carvable
A	5.000	5.000	5.000	7.000	7.000	7.000	9.000	9.000	9.000
B	0.06 / 2.19	0.06 / 2.19	0 / 1.94	0.06 / 4.19	0.06 / 4.19	0 / 3.94	0.06 / 6.19	0.06 / 6.19	0 / 5.94
C	0.31 / 2.44	0.31 / 2.44	NA	0.31 / 4.44	0.31 / 4.44	NA	0.31 / 6.44	0.31 / 6.44	NA
D	0.56 / 2.69	0.50 / 2.63	NA	0.56 / 4.69	0.50 / 4.63	NA	0.56 / 6.69	0.50 / 6.63	NA
E	2.797	2.797	2.797	2.797	2.797	2.797	2.797	2.797	2.797
F	2.297	2.297	2.297	2.297	2.297	2.297	2.297	2.297	2.297
G	2.922	2.922	2.922	2.922	2.922	2.922	2.922	2.922	2.922
H	1.672	1.672	1.672	1.672	1.672	1.672	1.672	1.672	1.672
I	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000
J	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000
K	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500
L	1.563	1.563	1.563	1.563	1.563	1.563	1.563	1.563	1.563
M	1.563	1.563	1.563	1.563	1.563	1.563	1.563	1.563	1.563
N	Ø 0.500	Ø 0.500	Ø 0.500	Ø 0.500	Ø 0.500	Ø 0.500	Ø 0.500	Ø 0.500	Ø 0.500
P	NA	NA	0.221	NA	NA	0.221	NA	NA	0.221
Q	1/2-13 SHCS	1/2-13 SHCS	1/2-13 SHCS	1/2-13 SHCS	1/2-13 SHCS	1/2-13 SHCS	1/2-13 SHCS	1/2-13 SHCS	1/2-13 SHCS
R	3.125	3.125	3.125	3.125	3.125	3.125	3.125	3.125	3.125
S	4.500	4.500	4.500	4.500	4.500	4.500	4.500	4.500	4.500
T	2.767	2.767	2.767	2.767	2.767	2.767	2.767	2.767	2.767
U	3.549	3.549	3.549	3.549	3.549	3.549	3.549	3.549	3.549
V	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000
W	Ø 0.625	Ø 0.625	Ø 0.625	Ø 0.625	Ø 0.625	Ø 0.625	Ø 0.625	Ø 0.625	Ø 0.625
X	1/4-20 SHCS	1/4-20 SHCS	1/4-20 SHCS	1/4-20 SHCS	1/4-20 SHCS	1/4-20 SHCS	1/4-20 SHCS	1/4-20 SHCS	1/4-20 SHCS
Y	Ø 0.625	Ø 0.625	Ø 0.625	Ø 0.625	Ø 0.625	Ø 0.625	Ø 0.625	Ø 0.625	Ø 0.625
AA	NA	NA	0.417	NA	NA	0.417	NA	NA	0.417

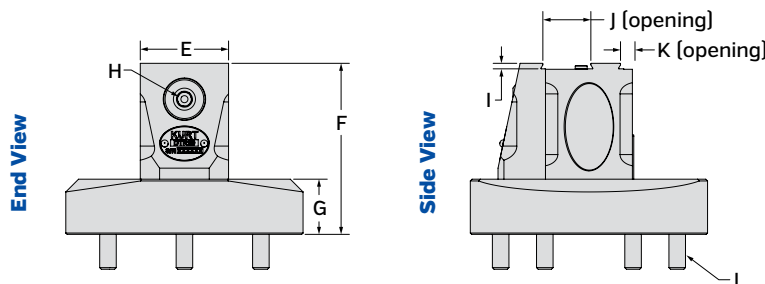
# DoveLock™ Dovetail 5 Axis Vise



- 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™ 5 Axis Vise



Shown with optional riser base



Optional riser bases:  
SCM250-RISERKIT  
SCM425-RISERKIT



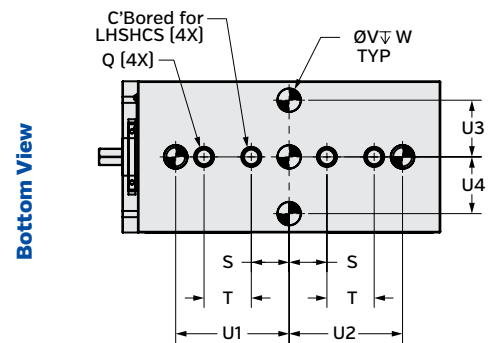
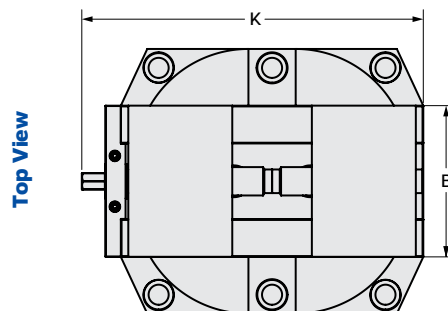
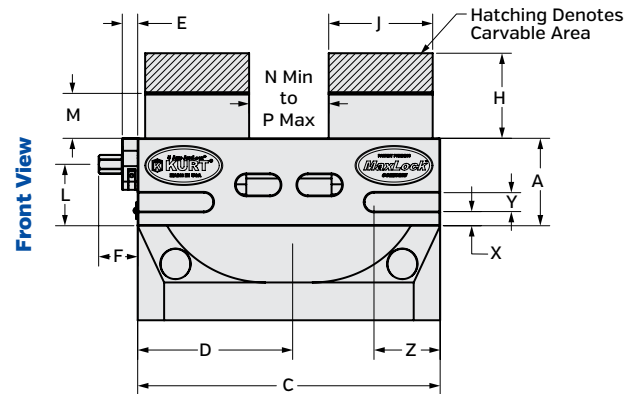
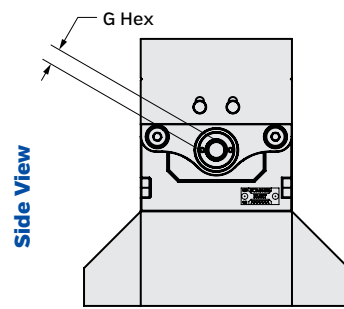
Optional mounting pallets - contact factory for options

- Self-centering vise for five axis machining.
- $\pm 0.0002''$  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"

	Dimensional Data		SCM250 Clamping Force Lbs.		SCM425 Clamping Force Lbs.	
	SCM425 SCM425AL	SCM250 SCM250AL	Ft. Lbs	Lbs Force	Ft. Lbs	Lbs Force
A	2.313	2.000	10	350	10	500
B	4.000	2.500	20	750	20	1,000
C	8.000	5.000	30	1,300	30	1,500
D	4.000	2.500	40	1,800	40	2,000
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 $\emptyset$	0.406 $\emptyset$				
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				

SCM250 Clamping Force Lbs.		SCM425 Clamping Force Lbs.	
Ft. Lbs	Lbs Force	Ft. Lbs	Lbs Force
10	350	10	500
20	750	20	1,000
30	1,300	30	1,500
40	1,800	40	2,000
		50	2,500
		60	3,000

Jaw Kits (Includes Two Jaws)				
Part Number	Length	Width	Height	Weight
SCM250AL-JAWKIT Aluminum Jaw Kit	2.00	2.50	1.50	2
SCM425AL-JAWKIT Aluminum Jaw Kit	2.75	4.00	2.25	5
SCM250C-JAWKIT Steel Jaw Kit	2.00	2.50	1.50	4
SCM425C-JAWKIT Steel Jaw Kit	2.75	4.00	2.25	12



Riser Not Shown in This View

# MaxLock™ Multi-Axis AngLock® Vise

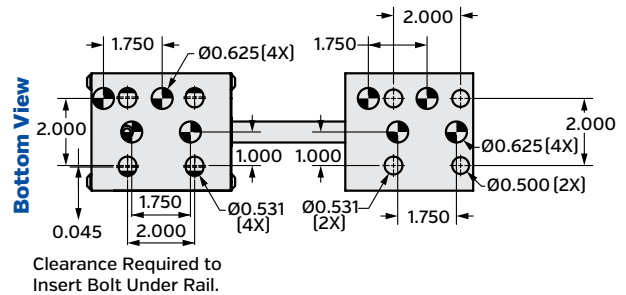
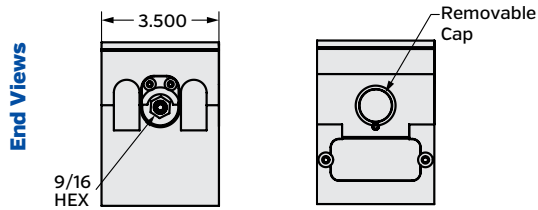
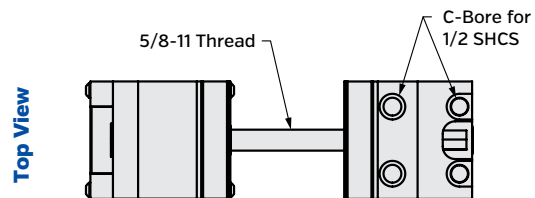
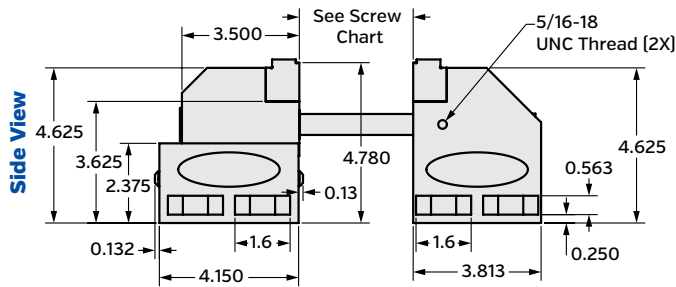


- Kurt AngLock Design pulls the part down.
- Pull Type feature decreases stationary deflection.
- 0.625" stroke – Allows for wider range of clamping before having to change setup.
- Modular Design – Mounts on two inch grid patterns when removed from the riser and "T" slots or center hole grids 100 mm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

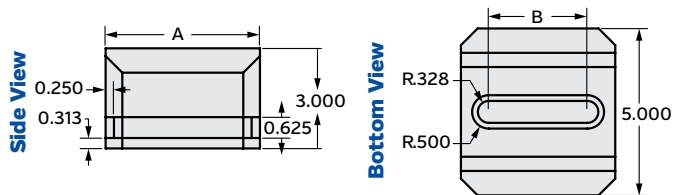
## Screw Selection Chart

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



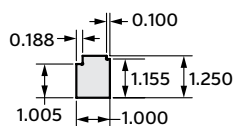
## Optional Risers Part No MX350RL and MX350RS



Part Number	A	B
MX350RS	4.625	2.95
MX350RL	5.650	3.97

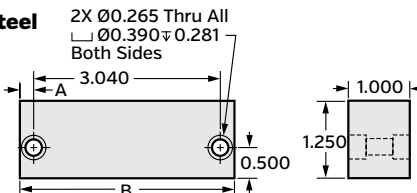


## MX350-236 Jawplate



## 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

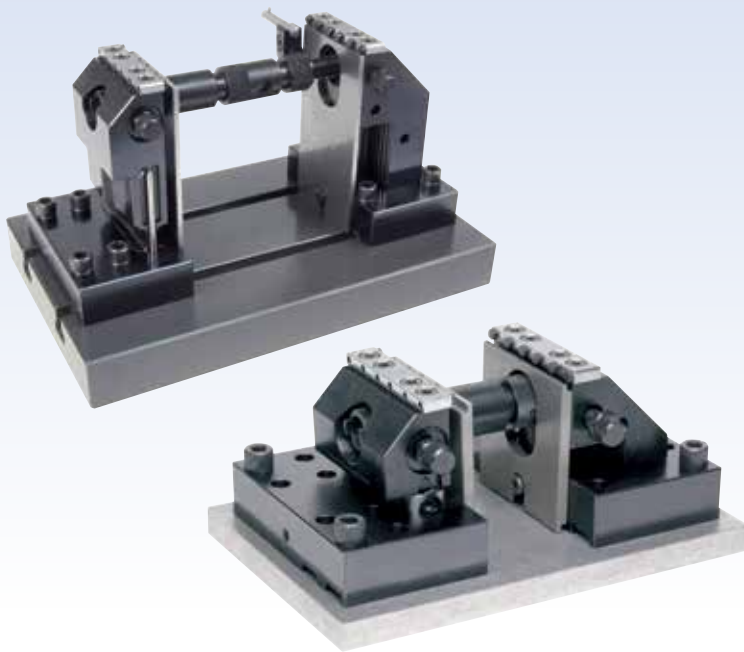


## Options:

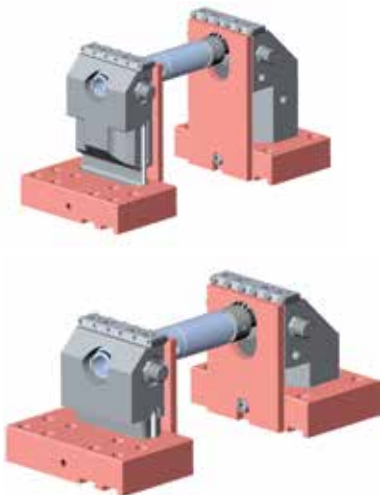
MX350-236 Double Step Jawplate

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

# VB Schenke Clamping System



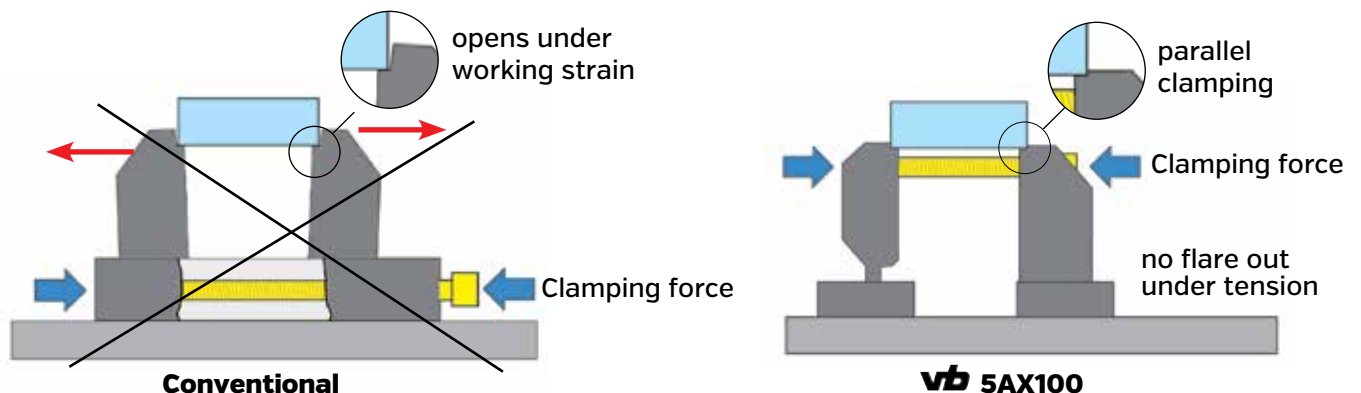
- High clamping force (up to 40 kN) exactly where it is needed, by incorporating the tension spindle directly below the work piece support.
- Form fit clamping with embossing pins. No pre-embossing required.
- No flare out of the jaws under tension, no distortion on machine table.
- Extreme rigidity 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

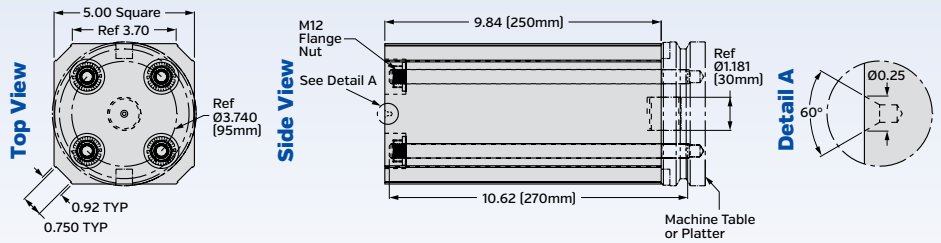
The clamping force is generated right where it is needed



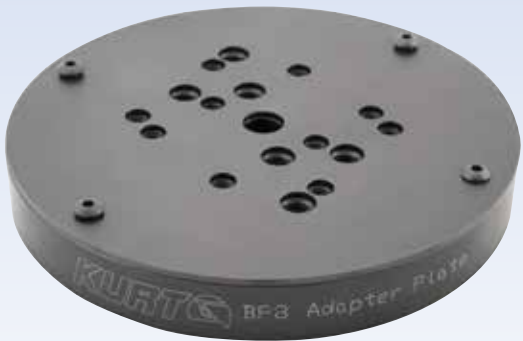
## Mini ToolBlox™



- 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.



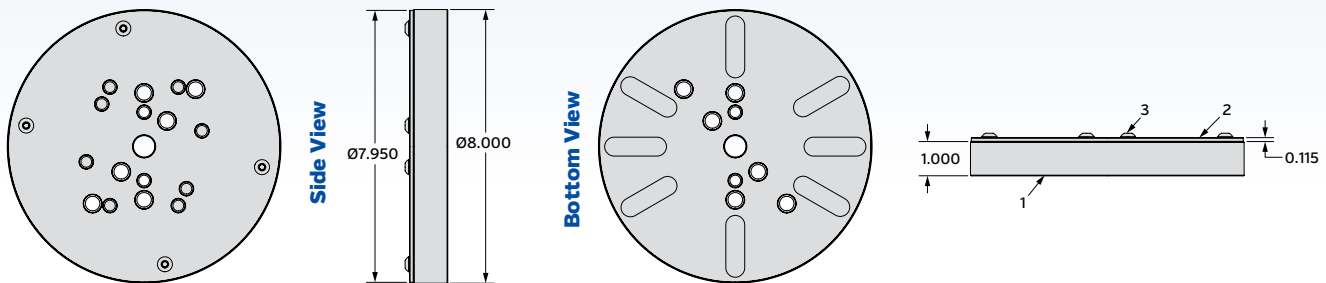
## BP8 5 Axis Adapter Plates



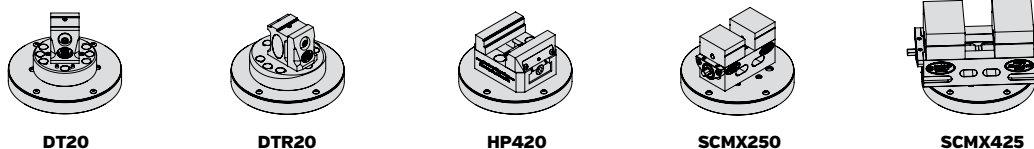
- Designed to cover a wide range of vises and a wide range of tables.
- The mounting slots are designed to be covered up when a vise is mounted to keep clear of chips.
- An easier way to mount Kurt 5 axis vises to a machine table.

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



## Kurt® Manufacturing

Industrial Products Division

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The Original AngLock® Vise Company