



5 Axis Workholding Systems

8008
2002



Made In Germany

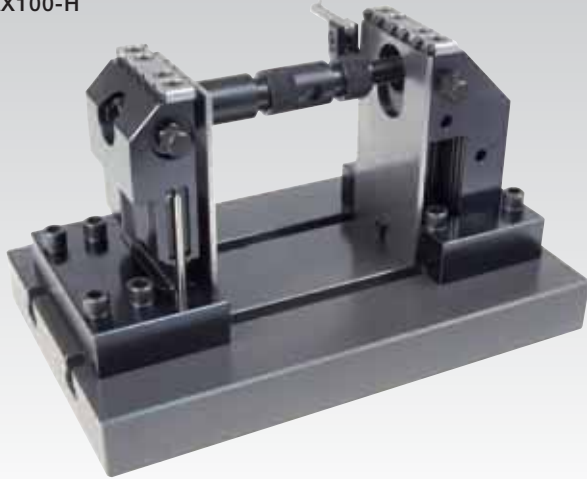
VB 5AX100-H
NEW VB 5AX100-L
Machining on 5 sides with one
single clamping operation



VB 5AX100 5 AXIS WORKHOLDING SYSTEM

VB 5 AX 100 SCHENKE CLAMPING SYSTEM – MODELS VB 5AX100-H AND VB 5AX100-L

VB 5AX100-H



VB 5AX100-L



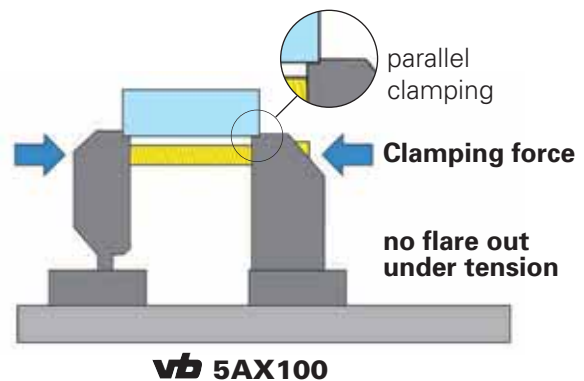
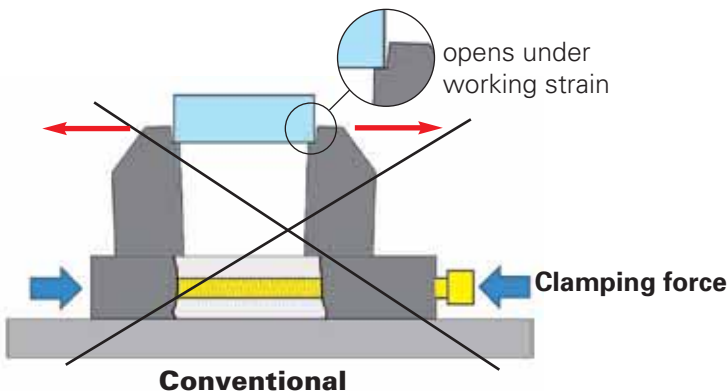
The rational vise system for 5 axis machining

- **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.

vb 5AX100		
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.17 (Parts No. 740-04-025-00)	200 mm (7.874")	125 mm (4.921")
Extended height +50 mm see pos.18 (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

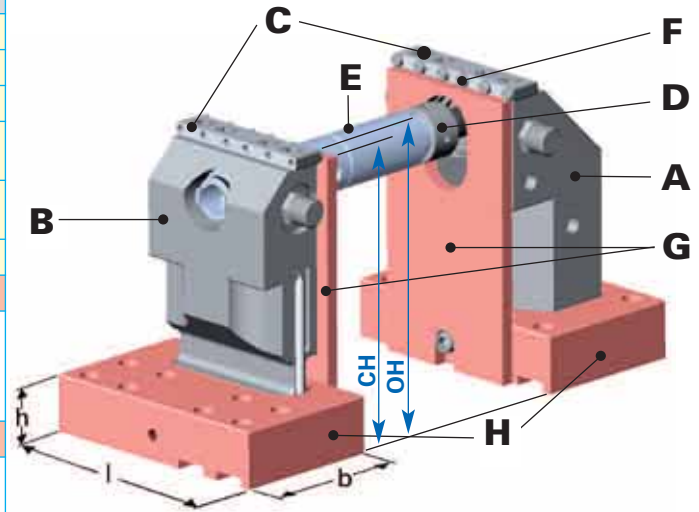


VB 5AX100 5 AXIS WORKHOLDING SYSTEM

VB 5AX100-H AND VB 5AX100-L

Basic Standard Set (Vise-Set and mounting blocks)

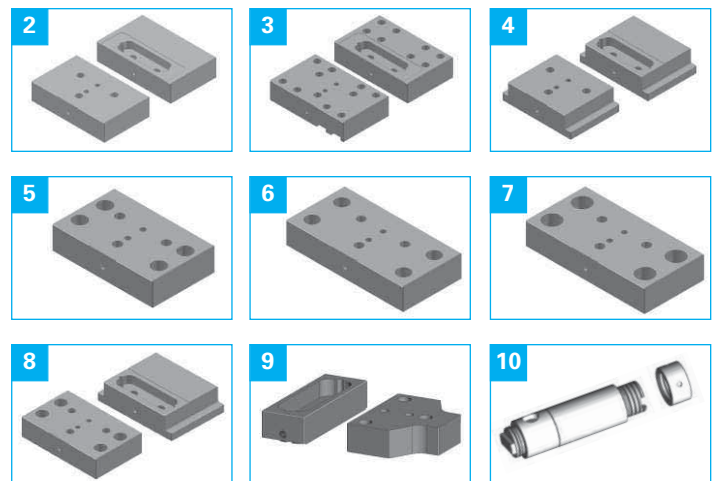
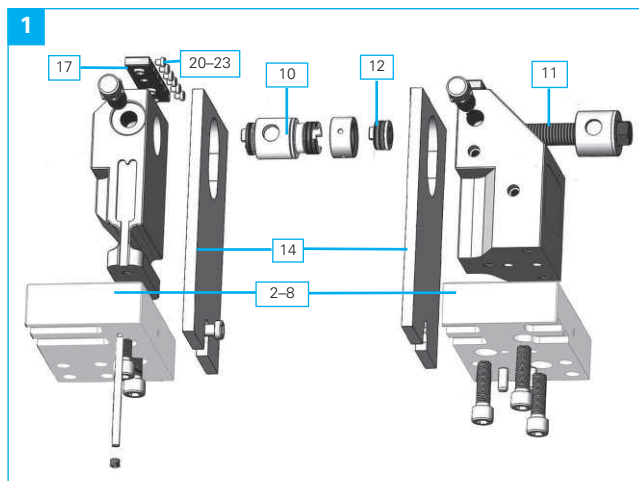
	Designation	Comment	
Vise -Set	A	Fixed jaw	1 piece
	B	Moving jaw	1 piece
	C	Clamping jaw for pins	2 pieces
	D	Tension spindle with driving sleeve and spindle nut	1 piece
	E	Extension shaft with cap nut	L 60 mm (2.362") L120 mm (4.724")
	F	Pins 0.5 mm	12 pieces
	G	Support blades optional	Pair
	Order seperately, according to required clamping height above table (CH) (100, 125 ,150, 175, 200, 225 mm) Parts No. 740-12-xxx-xx		
	H	Mounting blocks (at user's choice)	Pair
	Depending on the machine table or fixture Order seperately Parts No. 740-02-xxx-xx Parts No. 740-03-xxx-xx Parts No. 740-05-xxx-xx Parts No. 740-06-xxx-xx		



CH = Clamping Height Above Table
OH = Overall height

Order screws/brackets for T-slot or location grid mounting separately (pos. 20/21/28-33)

Parts No.		Mounting blocks				
		Slot	Location grid	Mounting Block Dimension		
		distance mm/inch	mm	mm/Inch		
740-01-000-51 + 740-02-063-12	Vise-Set + Mounting blocks for T-slot	63 2.480"		98 3.858"	158 6.220"	36 1.417"
740-01-000-51 + 740-02-080-12	Vise-Set-Set + Mounting blocks for T-slot	80 3.150"		98 3.858"	158 6.220"	36 1.417"
740-01-000-51 + 740-02-100-12	Vise-Set + Mounting blocks for T-slot	100 3.937"		98 3.858"	158 6.220"	36 1.417"
740-01-000-51 + 740-03-040-12	Vise-Set + Mounting blocks for location grid		40 x 40 x M12	98 3.858"	148 5.827"	36 1.417"
740-01-000-51 + 740-03-050-12	Vise-Set + Mounting blocks for location grid		50 x 50 x M12	98 3.858"	138 5.433"	36 1.417"
740-01-000-51 + 740-03-050-16	Vise-Set + Mounting blocks for location grid		50 x 50 x M16	98 3.858"	134 5.276"	36 1.417"
740-01-000-51 + 740-02-000-00	Vise-Set + Mounting blocks without holes			98 3.858"	158 6.220"	36 1.417"



VB 5 AX100 5 AXIS WORKHOLDING SYSTEM

ACCESSORIES

Pos.	Parts No.	Designation		Dimensions		VB 5 AX 100-H	VB 5 AX 100-L
				mm	Inch		
1	740-01-000-51	VB 5 AX 100-H Vise-Set without mounting blocks				•	
	740-01-003-61	VB 5 AX 100-L Vise-Set without mounting blocks					•
2	740-02-000-00	Mounting blocks without holes	pair	98 x 158 x 36	3.858" x 6.220" x 1.417"	•	•
3	740-02-063-12	Mounting blocks for T-slot, 63 mm	pair	98 x 158 x 36	3.858" x 6.220" x 1.417"	•	•
	740-02-080-12	Mounting blocks for T-slot, 80 mm	pair	98 x 158 x 36	3.858" x 6.220" x 1.417"	•	•
	740-02-100-12	Mounting blocks for T-slot, 100 mm	pair	98 x 158 x 36	3.858" x 6.220" x 1.417"	•	•
	740-02-125-12 ¹⁾	Mounting blocks for T-slot, 125 mm	pair	98 x 158 x 36	3.858" x 6.220" x 1.417"	•	•
	740-02-160-12 ¹⁾	Mounting blocks for T-slot, 160 mm	pair	98 x 200 x 36	3.858" x 7.874" x 1.417"	•	•
	740-02-140-16 ¹⁾	Mounting blocks for T-slot, 140 mm	pair	98 x 200 x 36	3.858" x 7.874" x 1.417"	•	•
4	740-03-030-10 ¹⁾	Mounting blocks, for location grid 30x30xM10	pair	98 x 140 x 36	3.858" x 5.512" x 1.417"	•	•
	740-03-040-12	Mounting blocks, for location grid 40x40xM12	pair	98 x 148 x 36	3.858" x 5.827" x 1.417"	•	•
	740-03-050-12	Mounting blocks, for location grid 50x50xM12	pair	98 x 138 x 36	3.858" x 5.433" x 1.417"	•	•
	740-03-050-16	Mounting blocks, for location grid 50x50xM16	pair	98 x 134 x 36	3.858" x 5.276" x 1.417"	•	•
5	740-05-040-12	Mounting blocks, for location grid 40x40xM12 fixed	piece	98 x 150 x 36	3.858" x 5.906" x 1.417"	•	•
6	740-05-050-12	Mounting blocks, for location grid 50x50xM12 fixed	piece	98 x 190 x 36	3.858" x 7.48" x 1.417"	•	•
7	740-05-050-16	Mounting blocks, for location grid 50x50xM16 fixed	piece	98 x 150 x 36	3.858" x 5.906" x 1.417"	•	•
8	740-06-040-12	Mounting blocks, for location grid 40x40xM12 fixed/moving	pair	98 x 150/148 x 36	3.858" x 5.906"/5.512" x 1.417"	•	•
	740-06-050-12	Mounting blocks, for location grid 50x50xM12 fixed/moving	pair	98 x 190/138 x 36	3.858" x 7.48"/5.433" x 1.417"	•	•
	740-06-050-16	Mounting blocks, for location grid 50x50xM16 fixed/moving	pair	98 x 150/134 x 36	3.858" x 5.906"/5.276" x 1.417"	•	•
9	740-04-025-00	Mounting block raise with screws	pair	H 25 mm	H 0.984"	•	•
	740-04-050-00	Mounting block raise with screws	pair	H 50 mm	H 1.969"	•	•
10	740-10-060-00	Extension shaft with cap nut		L 60 mm	L 2.362"	•	•
	740-10-120-00	Extension shaft with cap nut		L 120 mm	L 4.724"	•	•
	740-10-240-00	Extension shaft with cap nut		L 240 mm	L 9.448"	•	•
11	740-11-001-00	Tension spindle with driving sleeve		M18 x 1.5		•	•
12	740-11-002-00	Spindle nut				•	•
13	740-11-003-00	Knurled assembly bolt				•	•
14	740-12-100-00	Work piece support plates heat treated and ground	pair	H 100, B 100 mm	H 3.937", B 3.937"		•
	740-12-125-00	Work piece support plates heat treated and ground	pair	H 125, B 100 mm	H 6.889", B 3.937"		•
	740-12-150-00	Work piece support plates heat treated and ground	pair	H 150, B 100 mm	H 5.906", B 3.937"		•
	740-12-175-00	Work piece support plates heat treated and ground	pair	H 175, B 100 mm	H 6.889", B 3.937"	•	
	740-12-200-00	Work piece support plates heat treated and ground	pair	H 200, B 100 mm	H 7.874", B 3.937"	•	
	740-12-225-00	Work piece support plates heat treated and ground	pair	H 225, B 100 mm	H 8.858", B 3.937"	•	
15	740-13-050-00	Work stop	set	for H 175 mm	for H 6.889"	•	
	740-13-100-00	Work stop	set	for H 100 mm	for H 3.937"		•
16	740-14-014-12	Screw and T-nut for slot width 14 mm, M12 for VB 5 AX 100-H	set			•	
	740-14-114-12	Screw and T-nut for slot width 14 mm, M12 for VB 5 AX 100-L	set				•
	740-14-018-12	Screw and T-nut for slot width 18 mm, M12 for VB 5 AX 100-H	set			•	
	740-14-118-12	Screw and T-nut for slot width 18 mm, M12 for VB 5 AX 100-L	set				•
	740-14-022-16 ¹⁾	Screw and T-nut for slot width 22 mm, M16	set			•	
17	740-15-008-06	Clamping jaw for pins	piece	L 100 mm	L 3.937"	•	•
18	740-15-015-06	Machinable jaw	piece	L 100 mm	L 3.937"	•	•
19	740-16-001-01	Clamping for round pieces	set			•	•
20	740-17-000-00	Pin flat				•	•
21	740-17-025-00	Pin 0.25 mm				•	•
22	740-17-400-00	Pin 0.3 mm cup point				•	•
23	740-17-050-00	Pin 0.5 mm				•	•
24	740-20-030-10 ¹⁾	Bracket for location grid 30 mm M10	piece			•	•
	740-20-040-12	Bracket for location grid 40 mm M12	piece			•	•
	740-20-050-12	Bracket for location grid 50 mm M12	piece			•	•
	740-20-050-16	Bracket for location grid 50 mm M16	piece			•	•
	740-21-040-12	Middle bracket, grid 40 mm M12, to mount 2 vises beside	piece			•	•
25	740-55-001-20	Indicator with threaded pin				•	•
26	775 PT31-1215	Screw M12 x 67/33 for location grid				•	•
	775 PT31-1655	Screw M16 x 72/28 for location grid				•	•
	Stahlwille 20	Torque Wrench		40 - 200 Nm		•	•





VB 5AX100 5 Axis Workholding System

EXAMPLES OF APPLICATIONS



APPLICATION SPOTLIGHT



Omnitool, Inc. Reduces Machining Center Need From 2 Machines To 1 Using New Kurt VB 5X100 Schenke 5.1 Clamping System -- 3D Roughing And Face-Milling Operations Performed At 270 In/Min

One setup on one machining center does it all – high speed, 5-axis roughing, face-milling and tapping operations to create the intricate three dimensional features of a custom mold cavity. Production time is reduced up to 50 percent.

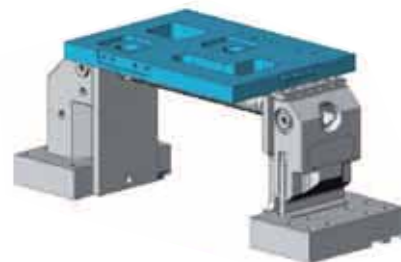
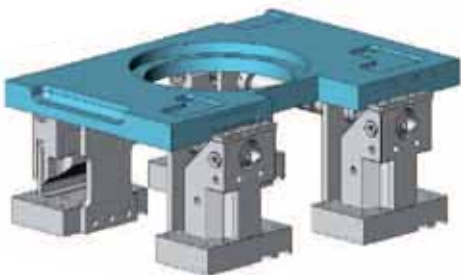
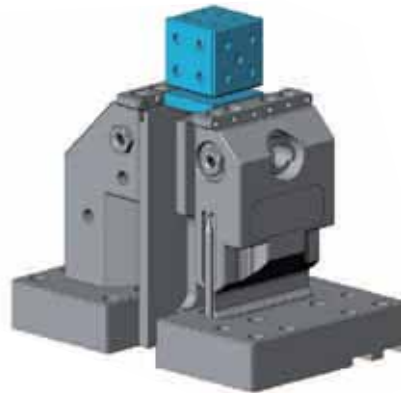
Previously, the mold's upper and lower surfaces were machined on a vertical machining center, then moved to a horizontal machine for machining on the other four sides. Conventional workholding limited machining operations to just 3 axis, hence the need for the second machine even though the vertical machining center has 5-axis machining capabilities.

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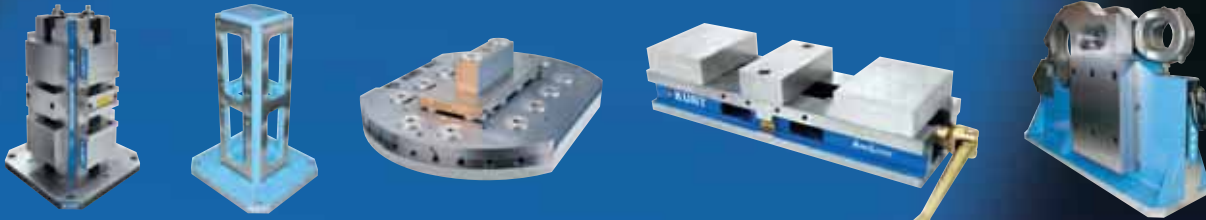
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