



5-axis Double Column Machining Center



Test Mold for 5-Axis Simultaneous Cutting Precision

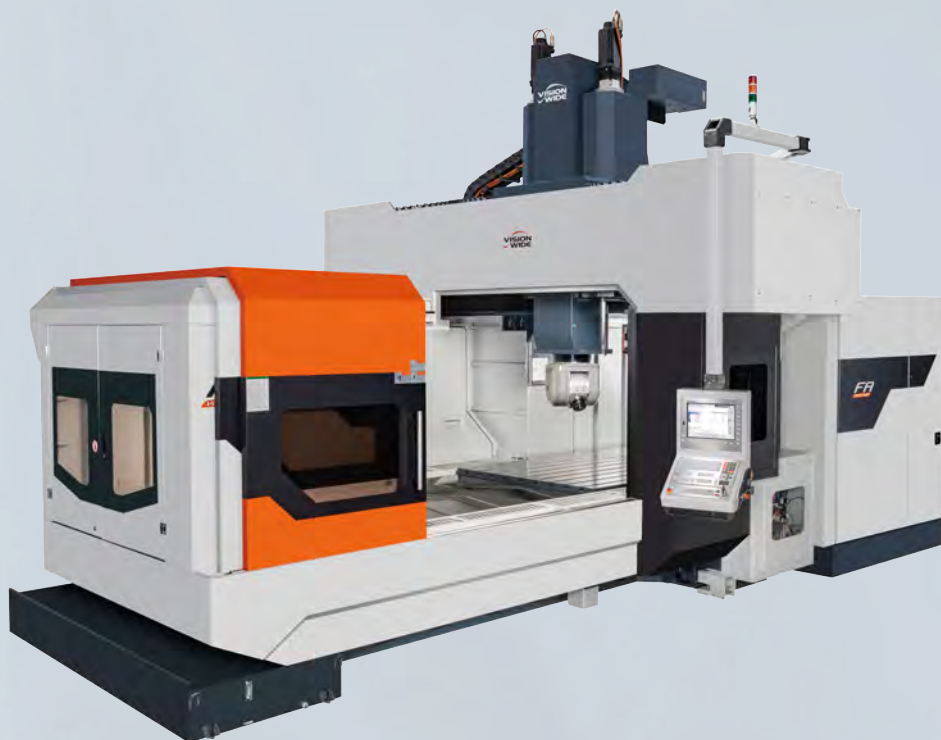
L280, W 280 , H120 mm

The mold accuracy of multi-axis simultaneous and fixed axis machining. Tool marks <0.04mm.

Achieve High Precision, High Speed and Fully Automatic Machining

- 5-axis machining efficiently shortens the paths in machining, considerably reduces the cutting time, and extends the life of tool.
- Rigid structure designed with double column frame meets wide range of machining requirements.
High dynamic performance on XYZ-axis with high accuracy 2-axis head realizes high excellent precision in multi-angle machining .
- German-made 2-axes head equips compact rotation structure and D.D. motor on B/C axis to ensure the high torque output.

5-Axis Machining



Specification

MODEL			Unit	FA-2123	FA-2623	FA-3123	FA-4123	FA-3127	FA-4127	FA-3233	FA-4233	FA-5233	FA-6233	FA-8233
TRAVEL														
X aixe			mm	2,100	2,600	3,100	4,100	3,100	4,100	3,200	4,200	5,200	6,200	8,200
Y aixe			mm	2,300				2,700		3,300				
Z aixe			mm	1,000/ 1,200 (Opt.)				1,000/ 1,200 (Opt.)		1,000/ 1,200 (Opt.)				
Distance from spindle nose to table	Z=1,000	HSK-A100	mm	-				141~1,141		125~1,125				75~1,075
		HSK-A63	mm	230~1,230				216~1,216		200~1,200				150~1,150
	Z=1,200	HSK-A100	mm	-				141~1,341		125~1,325				75~1,275
		HSK-A63	mm	230~1,430				216~1,416		200~1,400				150~1,350
Distance form spindle center to column			mm	453				453		453				
Distance between columns (port width)			mm	1,700				2,200		2,700				
TABLE														
Dimension			mm	2,000x1,500	2,500x1,500	3,000x1,500	4,000x1,500	3,000x1,800	4,000x1,800	3,000x2,450	4,000x2,450	5,000x2,450	6,000x2,450	8,000x2,450
T-slot (Width x Number x Pitch)			mm	22x9x160				22x11x160		28x11x200 (150)				
Max. table load			kg	8,000	9,000	10,000	12,000	10,000	12,000	13,000	16,000	20,000	22,000	24,000
SPINDLE														
Spindle motor (cont./ 30 min rated)			kW	20/26				57/75 (34/43 Opt.)		57/75 (34/ 43 Opt.)				
Spindle speed			rpm	20,000				12,000 (20,000 Opt.)		12,000 (20,000 Opt.)				
Spindle taper			-	HSK-A63				HSK-A100/HSK-A63 (Opt.)		HSK-A100/ HSK-A63 (Opt.)				
FEED														
Cutting feedrate			mm/min	1-10,000				1-10,000		1-10,000				
Rapid traverse			m/min	X:24,Y:20,Z:15			X:18,Y:20,Z:15	X:24,Y:18,Z:15	X:18,Y:18,Z:15	X:24,Y:15,Z:15	X:18,Y:15,Z:15	X:12.5,Y:15,Z:15	X:10,Y:15,Z:15	X:8,Y:15,Z:15
X,Y,Z power capacity			kW	X:4, Y:4, Z:4			X:6, Y:4, Z:4	X:8.6, Y:8.6, Z:6.5		X:8.6, Y:8.6, Z:6.5				
ACCURACY														
Positioning accuracy (JIS B6333 / VDI3441)		mm	±0.005/ 300, ±0.008/ Full travel				±0.005/ 300, ±0.008/ Full travel		±0.005/ 300, ±0.010/ Full travel					
		mm	P0.016		P0.018		P0.018		P0.022			P0.035		
Repeatability accuracy (JIS B6333 / VDI3441)		mm	±0.002				±0.002		±0.002			±0.002		
		mm	Ps0.015				Ps0.015		Ps0.020			Ps0.025		
ATC														
ATC capacity	Vertical	pcs	24 / 32 (Opt.) / 40(Opt.)				24 / 32(Opt.) / 40(Opt.)		24 / 32(Opt.) / 40(Opt.)					
Max. tool weight		kg	8				HSK-A100:15/ HSK-A63: 8(Opt.)		HSK-A100:15/ HSK-A63: 8(Opt.)					
Tool size (DxL) (Full tools)		-	Φ 75x300L				HSK-A100: Φ 110x300L/ HSK-A63: Φ 75x300L (Opt.)		HSK-A100: Φ 110x300L/ HSK-A63: Φ 75x300L(Opt.)					
Tool shank		-	HSK-A63				HSK-A100 / HSK-A63(Opt.)		HSK-A100 / HSK-A63(Opt.)					
LUBRICATION														
Main Hydraulic power			kW	3.7				3.7		3.7				
Cytec Hydraulic power			kW	0.75				0.75		0.75				
Coolant tank (2 sets)			kW	7.2				7.2		7.2				
Coolant tank capacity			L	44				44		44				
Coolant motor power			kW	1.7				1.7		1.7				
Coolant tank capacity			L	600				600		800				
OTHERS														
Power requirement			kVA	110				HSK-A100:130/HSK-A63:110(Opt.)		HSK-A100:130 / HSK-A63:110(Opt.)				
Pneumatic input pressure			kg/cm³	6				6		6				
Machine net weight			kg	27,500	30,000	35,000	40,000	31,500	34,500	48,000	54,000	60,000	66,000	78,000
Machine gross weight			kg	31,000	33,500	38,500	43,500	35,500	38,500	51,000	58,000	65,000	72,000	86,000
Max. space (LxWxH)			m	8x8x4.5	9x8x4.5	10x8x4.5	12x8x4.5	10.7x7.5x5.7	12.7x7.5x5.7	11.2x8.2x5.7	13.2x8.2x5.7	15.4x8.2x5.7	17.4x8.2x5.7	15.4x8.2x5.7

Standard Accessory & Function

- 1 HEIDENHAIN TNC640 controller
- 2 Spindle 20,000rpm with tool shank HSK-A63(FA-xx23 Series)
Spindle 12,000rpm with tool shank HSK-A100
(FA-xx27 / FA-xx33 Series)
- 3 Blum TC 60 auto measurement compensation of rotation axis accuracy
- 4 HEIDENHAIN DCM (Dynamic Collision Monitoring) function
- 5 2-axis head central control and monitoring protection system:
Spindle cutting vibration protection
Spindle and motor overloading protection
B/C rotating motor overloading protection
Spindle overloading protected by software
- 6 Spindle and structure temperature thermal compensation system
- 7 Spindle cooling device
- 8 Twin hydraulic cylinders with pressured air assistance balancing system(FA-xx27 / FA-xx33 Series)
- 9 X axis ball screw supporter(available for FA-xx33 and X > 4m)
- 10 24 tools magazine with ATC
- 11 Centralized auto lubrication system
- 12 Independent lubrication oil collector
- 13 Air blast through spindle
- 14 Wash gun and pneumatic interface
- 15 Spindle ring coolant nozzle
- 16 Cutting fluid cooling system
- 17 Enclosed sheet metal guard(Without roof)
- 18 Swiveling arm type operation panel
- 19 Screw type chip conveyor on table side
- 20 Caterpillar type chip conveyor
- 21 Air conditioner for electrical cabinet
- 22 Working lamp
- 23 Operation cycle finish and alarm light
- 24 Movable manual pulse generator
- 25 Footswitch for tool clamping
- 26 RJ45 interface
- 27 XYZ axis linear scale feedback
- 28 XYZ axis travel hard limits protection
- 29 Remote monitoring software-Standard
(Not available for Siemens controller)
- 30 Auto power off function
- 31 Foundation pads and bolts kits
- 32 Adjustment tool and tool kits

Optional Accessory & Function

- 1 20,000rpm HSK-A63 Spindle(FA-xx27 / FA-xx33 Series)
- 2 Z-axis travel 1200mm(FA-xx27 / FA-xx33 Series)
- 3 200 higher column(FA-xx27 / FA-xx33 Series)
- 4 Sub working table
- 5 Coolant through spindle system
- 6 Reserved interface for coolant through spindle system
- 7 Oil mist cooling device
- 8 32/40 tool magazine with ATC
- 9 Overhead pendulum type operation panel
- 10 Chip auger on table side
- 11 Chip cart
- 12 Independent manual pulse generator
- 13 Remote monitoring software-Professional
- 14 (Not available for Siemens controller)
Auto tool length measurement
- 15 Transformer
- 16 Enclosed sheet metal guard with roof
(only for X < 4m , standard column height)
- 17 Oil mist recycle device
- 18 Oil skimmer

