



High Efficiency Double Column Machining Center



New Generation
High Performance
Bridge Machine
High Rigidity
Structure Design
Best Choice in
Precision Mold Industry

- Large precision ground table work area
- Enhanced positioning and repeatability accuracies
- Larger Y-axis travels
- Higher performance cutting and rapid feedrates
- Gear type spindle torque 1,163Nm (15 / 18.5kW)

High Efficiency
Machining



Specification

Model			單位	SM-1613	SM-2113	SM-2613	SM-1618	SM-2118(Y)	SM 2618(Y)	SM-3118(Y)
TRAVEL			mm							
X axis			mm	1,600	2,100	2,600	1,600	2,100	2,600	3,100
Y axis			mm	1,300			1,800	1,800 (2,300)		
Z axis			mm	800 / 1,000			800 / 1,000			
Distance from spindle nose to table	Gear type #50	Z=800	mm	200~1,000			200~1,000			
		Z=1,000	mm	200~1,200			200~1,200			
Distance from spindle center to column			mm	450			450			
Distance between columns (port width)			mm	1,400			1,840			
TABLE										
Dimension			mm	1,800x1,100	2,300x1,100	2,800x1,100	1,800x1,600	2,300x1,600	2,800x1,600	3,300x1,600
T-slot(Width x Number x Pitch)			mm	22 x 7 x 160			22 x 9 x 160			
Max. table load			Kg	6,000	8,000	10,000	7,000	8,000	10,000	12,000
SPINDLE										
Spindle motor power(cont./30min.)			kW	15 / 18.5			22 / 26			
Spindle speed(2-step gear type)			rpm	6,000			6,000			
Spindle taper			-	BBT50			BBT50			
Spindle motor torque(cont./30min.)			Nm	707 / 1,163			691 / 817			
FEED										
Cutting feed rate			mm/min	1~15,000			1~15,000			
X / Y / Z Rapid traverse			m/min	20 / 20 / 15			20 / 20 / 15			
X / Y / Z axis motor power(FANUC)			kW	3 / 3 / 5.5			3 / 3 / 5.5			5.5/4.5/5.5
ACCURY										
Positioning(Refer to JIS-B6333)			mm	±0.006/Full travel(±0.010/Full travel)			±0.010 / Full travel	±0.010 / Full travel		
Positioning(Refer to VD13441)			mm	P0.009			P0.009	P0.009(P0.012)		
Repeatability(Refer to JIS-B6333)			mm	±0.002			±0.002	±0.002(±0.003)		
Repeatability(Refer to VD13441)			mm	Ps0.005			Ps0.005	Ps0.005(Ps0.008)		
ATC										
ATC acpacity	Vertical type tool change	pcs	24 / 32 / 40			24 / 32 / 40				
Max. tool weight *1		kg	18			18				
Max. tool length		mm	400			400				
Max. tool size(full tools/next packet empty)		mm	Ø 125 / Ø 250			Ø 125 / Ø 250				
Pull stud		-	BBT50			BBT50				
OTHER										
Power requirement		kVA	50			50				
Pneumatic requirement		kg/cm ²	6			6				
Air pressure flow requirement		L/Min	900			900				
Machine net weight		kg	17,500	19,000	20,500	21,000	23,000(23,900)	25,300(25,900)	27,500(28,100)	
Machine gross weight		kg	19,500	21,500	23,500	23,500	26,500(26,900)	29,000(29,600)	31,500(32,100)	
Floor. space(LxWxH) *2		m	6.8x5.5x4.3	7.8x5.5x4.3	9.0x5.5x4.3	7.5x6.0x4.3	8.3x6.0x4.3 (8.5x6.6x4.3)	9.5x6.0x4.3 (9.8x6.6x4.3)	10.8x6.0x4.3 (10.8x6.6x4.3)	

*1 Max. tool length(#40): 300 mm, Max. support torque: 0.8 kgf-m

*2 Max. tool length(#50): 400 mm, Max. support torque: 2.5 kgf-m

※ All specifications and designs are subject to change without notice.

Specification

Model			單位	SM-2622(Y)	SM-3122(Y)	SM-4122(Y)	SM-5122(Y)	SM-2622E	SM-3122E	SM-4122E	SM-5122E
TRAVEL			mm								
X axis			mm	2,600	3,100	4,100	5,100	2,600	3,100	4,100	5,100
Y axis			mm	2,200				2,700			
Z axis			mm	800 / 1,000				800 / 1,000			
Distance from spindle nose to table	Gear type #50	Z=800	mm	200~1,000				200~1,000			
		Z=1,000	mm	200~1,200				200~1,200			
Distance from spindle center to column			mm	450				450			
Distance between columns (port width)			mm	2,400				2,800			
TABLE											
Dimension			mm	2,800x2,100	3,300x2,100	4,300x2,100	5,300x2,100	2,800x2,100	3,300x2,100	4,300x2,100	5,300x2,100
T-slot(Width x Number x Pitch)			mm	22 x 11 x 160				22 x 11 x 160			
Max. table load			Kg	12,000	14,000	16,000	18,000	12,000	14,000	16,000	18,000
SPINDLE											
Spindle motor power(cont./30min.)			kW	22 / 26				22 / 26			
Spindle speed(2-step gear type)			rpm	6,000				6,000			
Spindle taper			-	BBT50				BBT50			
Spindle motor torque(cont./30min.)			Nm	691 / 817				691 / 817			
FEED											
Cutting feed rate			mm/min	1~15,000				1~15,000			
X / Y / Z Rapid traverse			m/min	20 / 20 / 15				20 / 20 / 15			
X / Y / Z axis motor power(FANUC)			kW	3/3/5.5		5.5 / 4.5 / 5.5		3/3/5.5	5.5 / 4.5 / 5.5		
ACCURY											
Positioning(Refer to JIS-B6333)			mm	±0.010 / Full travel				±0.010 / Full travel			
Positioning(Refer to VD13441)			mm	P0.012(P0.015)		P0.015		P0.015			
Repeatability(Refer to JIS-B6333)			mm	±0.003				±0.003			
Repeatability(Refer to VD13441)			mm	Ps0.008(Ps0.012)		Ps0.012		Ps.0012			
ATC											
ATC acpacity	Vertical type tool change	pcs	24 / 32 / 40				24 / 32 / 40				
Max. tool weight *1		kg	18				18				
Max. tool length		mm	400				400				
Max. tool size(full tools/next packet empty)		mm	Ø 125 / Ø 250				Ø 125 / Ø 250				
Pull stud		-	BBT50				BBT50				
OTHER											
Power requirement			kVA	55				55			
Pneumatic requirement			kg/cm ²	6				6			
Air pressure flow requirement			L/Min	900				900			
Machine net weight			kg	28,500 (29,200)	31,000 (31,700)	35,600 (36,300)	40,000 (40,700)	30,000	32,000	37,000	41,500
Machine gross weight			kg	32,500 (33,200)	35,500 (36,200)	41,000 (41,700)	46,500 (47,200)	34,000	36,500	42,500	47,500
Floor. space(LxWxH) *2			m	10.5x6.6x4.3 (10.5x7.2x4.3)	11.5x6.6x4.3 (11.5x7.2x4.3)	14x6.6x4.3 (14x7.2x4.3)	16x6.6x4.3 (16x7.2x4.3)	10.5x7.2x4.3	11.5x7.2x4.3	14x7.2x4.3	16x7.2x4.3

*1 Max. tool length(#40): 300 mm, Max. support torque: 0.8 kgf-m

*2 Max. tool length(#50): 400 mm, Max. support torque: 2.5 kgf-m

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Manual Head Attachments



Standard Accessory

1. FANUC 0i MF Plus controller
2. 6,000 rpm, 50# gear type spindle
3. Z axis travel 800mm
4. Spindle cooling system
5. 24 tools magazine
6. Centralized auto lubrication system
7. Independent lubrication oil collector
8. Air blast through spindle
9. Wash gun and pneumatic interface
10. Cutting fluid cooling system
11. Enclosed splash guard (without roof)
12. Screw type chip conveyor on table sides
13. Caterpillar type chip conveyor / Water tank
14. Heat exchanger for electrical cabinet
15. Swiveling arm type operation panel
16. Working lamp
17. Operation cycle finish and alarm light
18. Movable manual pulse generator
19. RJ45 interface
20. Footswitch for tool clamping
21. XYZ -axis absolute pulse coder feedback
22. Remote monitoring software-standard
(Not available for SIEMENS controller)
23. Auto power off
24. Spindle cutting load software protection
25. Vision Wide FX-100 graphical user interface
26. XYZ-axis travel hard limits protection
27. Foundation pads and bolts kits
28. Adjustment tool and tool kits
29. Technical manuals
(Operation, maintenance manual and circuit diagram)

Optional Accessory & Function

1. FANUC 31 iB controller
2. SIEMENS / HEIDENHAIN controller
3. 10,000rpm, 50# built-in spindle
4. 10,000rpm, 50# direct-driven spindle
15,000rpm, 40# direct-driven spindle
5. Z axis travel 1,000mm
6. SM-xx13 / SM-xx18(Y) series 200mm higher column
SM-xx22(Y)(E) series 200/300/400/500mm higher column
7. Spindle ring cutting coolant device
8. Coolant through spindle system 20/70bar
9. Coolant through spindle system interface
10. Oil skimmer
11. Oil mist cooling device
12. 32T/40T tools magazine with arm type ATC
13. Enclosed splash guard (with roof)
14. Helical bladed screw conveyor on table sides
15. Chip cart
16. Air conditioner for electrical cabinet
17. Transformer
18. Interface preparation for fourth axis
19. Auto tool length measurement
20. Auto workpiece measurement
21. Spindle load hardware protection
22. Auto warm up
23. Anti-collision and process simulation software
24. XYZ-axis linear scale
25. Remote monitoring software- profession
(Not available for SIEMENS controller)
26. Thermal compensation System
27. CE Certification
28. Z-axis retract function at power failure
29. Vision Wide FX-100 graphical user interface