

2. Machine specifications

2.2 Specification table

2.2.1 PUMA MX2000 series

MX2000 Series		Unit	MX2000	MX2000T	MX2000S	MX2000 ST
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1) CAPACITY

Swing over bed	mm	750	750	750	750
Swing over saddle	mm	600	600	600	600
Recommended turning diameter	mm	210	210	210	210
Max. turning diameter	mm	550	550	550	550
Max. working length	mm	1,020	1,020	1,020	1,020
Bar working diameter	mm	65	65	65	65

2) MAIN SPINDLE (LEFT SPINDLE& RIGHT SPINDLE)

Chuck size	mm	210	210	210	210
Spindle nose	ASA	A2#6	A2#6	A2#6	A2#6
Spindle diameter (front)	mm	ø110	ø110	ø110	ø110
Spindle through hole	mm	ø76	ø76	ø76	ø76
Bore of draw tube	mm	ø66	ø66	ø66	ø66
Main spindle motor power (30min./Cont.)					
Fanuc α B180M/6000(Built-in)	kW	22/15	22/15	22/15	22/15
Max. spindle speed	rpm	5,000	5,000	5,000	5,000
Max. spindle indexing angle (C-axis)	deg	0.001	0.001	0.001	0.001

3) MILLING SPINDLE

Milling spindle taper		CAPTO C6	CAPTO C6	CAPTO C6	CAPTO C6
Milling spindle diameter(front)	mm	70	70	70	70
Milling spindle motor power(30min./Cont.)					
Fanuc α B112S/20,000i(Built-in)	kW	15/11	15/11	15/11	15/11
Max. milling spindle speed	rpm	10,000	10,000	10,000	10,000
Max. milling spindle torque(S3 15% rating)	kgf.m	6.1	6.1	6.1	6.1
Index of milling spindle itself	360 deg. in 30 deg. increment.				



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4) AUTOMATIC TOOL CHANGER (ATC)						
- Tool storage capacity		EA	24	24	24	24
- Tool changer arm			Swing Arm	Swing Arm	Swing Arm	Swing Arm
- Tool select type			Fixed address			
- Tool shank			CAPTO C6	CAPTO C6	CAPTO C6	CAPTO C6
- Max. tool diameter	Continuous	mm	φ90	φ90	φ90	φ90
	Without adjacent tools	mm	φ120	φ120	φ120	φ120
- Max. tool length		mm	300	300	300	300
- Max. tool weight		kgf	8	8	8	8
- Tool change time (tool to tool)		sec	1.5	1.5	1.5	1.5

5) CARRIAGE

Travel distance	X1-axis	mm	555	555	555	555
	X2-axis	mm	-	185	-	185
	Z1-axis	mm	1,095	1,095	1,095	1,095
	Z2-axis	mm	-	1,140	-	1,140
	Y-axis	mm	160 (± 80)	160 (± 80)	160 (± 80)	160 (± 80)
	A-axis	mm	-	-	1,065	1,065
	C1, C2-axis	deg	360(0.001)	360(0.001)	360(0.001)	360(0.001)
	B-axis	deg	240 (± 120)	240 (± 120)	240 (± 120)	240 (± 120)
	B-axis coupling clamp deg	deg	15	15	15	15
Rapid traverse	X1, 2-axis	deg	24	24	24	24
	Z1, 2-axis	m/min	24	24	24	24
	Y-axis	m/min	16	16	16	16
	A-axis	m/min	-	-	24	24
	C1, 2-axis	rpm	200	200	200	200
	B-axis	rpm	27	27	27	27

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Max. cutting feedrate	X1, 2-axis	mm/rev	500	500	500	500
	Z1, 2-axis	mm/rev	500	500	500	500
	Y-axis	mm/rev	500	500	500	500
	A-axis	mm/rev	-	-	500	500
	C1, C2-axis	mm/min	500	500	500	500
Ball screw diameter x lead	X1-axis	mm	36x10	36x10	36x10	36x10
	X2-axis	mm	32x10	32x10	32x10	32x10
	Z1-axis	mm	45x10	45x10	45x10	45x10
	Z2-axis	mm	40x10	40x10	40x10	40x10
	Y-axis	mm	36x6	36x6	36x6	36x6
	A-axis	mm	-	-	40x10	40x10
Servo motor	(X1-axis)	Fanuc α 22/3,000iB	kW	4.0	4.0	4.0
	(X2-axis)	Fanuc α 12/3,000iB	kW	-	3.0	3.0
	(Z1-axis)	Fanuc α 22/3,000i	kW	4.0	4.0	4.0
	(Z2-axis)	Fanuc α 22/3,000i	kW	-	4.0	4.0
	(Y-axis)	Fanuc α 12/3,000i	kW	3.0	3.0	3.0
	(A-axis)	Fanuc α 22/3,000i	kW	-	-	4.0
	(B-axis)	Fanuc α 8/3,000i	kW	1.6	1.6	1.6

6) BED & SADDLE

Slant angle		deg	45	45	45	45
Guideway span	Bed (Z1-axis)	mm	540	540	540	540
	Saddle (X1-axis)	mm	285	285	285	285
	Saddle (X2-axis)	mm	-	240	-	240
	Right spindle base	mm	-	-	445	445



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7) TOOL POST (Lower)

No. of tool stations			-	12	-	12
OD tool size	mm		-	25x25	-	25x25
Boring bar size	mm		-	φ40	-	φ40
Rotary tool motor	Fanuc ••2/1,000i	kW	-	5.5	-	5.5
Rotary tool speed	rpm		-	4,000	-	4,000
Rotary tool torque	kgf.m		-	4.8	-	4.8
Turret index time	1 Station swivel	sec	-	0.2	-	0.2
(continued)	1 Station	sec	-	0.6	-	0.6
	Full Station	sec	-	1.0	-	1.0

8) PROGRAMMABLE TAIL STOCK (Built-in dead center)

Quill diameter	mm	100	100	-	-
Quill bore taper		MT#4	MT#4	-	-
Quill travel	mm	150	150	-	-

9) POWER SOURCE

Electric power supply (kVA : Rated capacity)	kVA				66.1
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10) Machine size

Height from floor to spindle center	mm	1,230	1,230	1,230	1,230
Std. M/C dimension (length x width)	mm				4,520 x 2,495
Machine height	mm	2,600	2,600	2,600	2,600
Net weight of the machine	kgf				12,300