



Machine Specifications and NC Unit Specifications

Item			S700X2 / S700X2 RD *9	S500X2 / S500X2 RD *9	S300X2 / S300X2 RD *9
CNC Unit			CNC-C00		
Travels	X axis	mm (inch)	700(27.6)	500(19.7)	300(11.8)
	Y axis	mm (inch)		400(15.7)	
	Z axis	mm (inch)		300(11.8)	
	Distance between table top and spindle nose end	mm (inch)	180~480(7.1~18.9)		
Table	Work area size	mm (inch)	800x400(31.4x15.7)	600x400(23.4x15.7)	
	Max.loading capacity (uniform load)	kg (lbs)	250[300 *6] (551[661 *6])		
Spindle	Spindle speed	min ⁻¹	10,000min ⁻¹ specifications : 1~10,000 16,000min ⁻¹ specifications (Optional) : 1~16,000 10,000min ⁻¹ high-torque specifications (Optional) : 1~10,000 27,000min ⁻¹ specifications (Optional) : 1~27,000		
	Speed during tapping	min ⁻¹	MAX. 6,000 (27,000min ⁻¹ specifications : MAX. 8,000)		
	Tapered hole		7/24 tapered No.30		
	BT dual contact system (BIG-PLUS)		Optional		
	Coolant Through Spindle (CTS)		Optional (CTS cannot be selected for 27,000 min ⁻¹ specification models.)		
Feed rate	Rapid traverse rate (XYZ-area)	m/min(inch/min)	50 x 50 x 56(1,969 x 1,969 x 2,205)		
	Cutting feed rate	mm/min(inch/min)	X, Y, Z axis : 1~30,000(0.04~1,181) *7		
ATC unit	Tool shank type		MAS-BT30		
	Pull stud type *4		MAS-P30T-2		
	Tool storage capacity	pcs.	14 / 21		
	Max. tool length	mm (inch)	250(9.8)	160(6.3) [21 tool]	250(9.8) [14 tool]
	Max. tool diameter	mm (inch)	110(4.3)		
	Max. tool weight *1	kg (lbs)	3.0(6.6) / Tool (TOTAL TOOL WEIGHT : 25(55.1) for 14 tools, 35(77.2) for 21 tools)		
	Tool selection method		Random shortcut method		
Tool change time *5	Tool To Tool	sec.	0.7		
	Chip To Chip	sec.	1.3		
Electric motor	Main spindle motor (10min/continuous)*2	kW	10,000min ⁻¹ specifications : 10.1 / 7.1 16,000min ⁻¹ specifications (Optional) : 7.4 / 5.1 10,000min ⁻¹ high-torque specifications (Optional) : 12.8 / 9.2 27,000min ⁻¹ specifications (Optional) : 8.9 / 6.3		
	Axis feed motor	kW	X, Y axis : 1.0 Z axis : 2.0		
Power source	Power supply		AC V±10%, 50/60Hz±1Hz		
	Power capacity (continuous)	kVA	10,000min ⁻¹ specifications : 9.5 16,000min ⁻¹ specifications (Optional) : 9.5 10,000min ⁻¹ high-torque specifications (Optional) : 10.4 27,000min ⁻¹ specifications (Optional) : 9.5		
	Air supply	MPa	0.4~0.6(recommended value : 0.5MPa *8)		
	Regular air pressure	L/min	45(27,000min ⁻¹ specifications : 115)		
Machining dimensions	Height	mm (inch)	2,497(98.3)		
	Required floor space [with control unit door open]	mm (inch)	2,050x2,223 [2,794] (80.7x87.5 [110])	1,560x2,223 [2,794] (61.4x87.5 [110])	1,080x2,463 [2,794] (42.5x96.9 [110])
	Machine weight (including control unit and machine cover)	kg (lbs)	2,400(5,291)	2,250(4,960)	2,200(4,850)
Accuracy *3	Accuracy of bidirectional axis positioning (ISO230-2:1988)	mm (inch)	0.006~0.020 (0.00024~0.00079)		
	Repeatability of bidirectional axis positioning (ISO230-2:2014)	mm (inch)	Less than 0.004 (0.00016)		
Front door			2doors		
Standard accessories	Instruction Manual (1 set), anchor bolts (4 pcs.), leveling plates (4 pcs.), machine cover (manual door)				

*1. Actual tool weight differs depending on the configuration and center of gravity. The figures shown here are for reference only. *2. Spindle motor output differs depending on the spindle speed. *3. Measured in compliance with ISO standards and Brother standards. *4. Brother specifications apply to the pull studs for CTS. *5. Measured in compliance with JIS B6336-9 and MAS011-1987. *6. Acceleration must be adjusted for X and Y axes. *7. When high accuracy mode B is used (When not used, 1 ~ 10,000 mm/min for X/Y axes and 1 ~ 20,000 mm/min for Z axis) *8. Regular air pressure varies depending on the machine specifications, machining program details, or use of peripheral equipment. Set the pressure higher than the recommended value. *9. The machine needs to be equipped with a relocation detection device depending on the destination. Machines equipped with a relocation detection device come with "RD" at the end of the model name.

NC unit specifications	
CNC model	CNC-C00
Control axes	5 axes (X,Y,Z, two additional axes)
Simultaneously controlled axes	Positioning 5 axes(X,Y,Z,A,B)
	Interpolation Linear : 4 axes(X,Y,Z one additional axis) Circular : 2 axes Helical/conical : 3 axes(X,Y,Z)
Least input increment	0.001mm, 0.0001inch, 0.001 deg.
Max. programmable dimension	±9999.999mm, ±999.9999inch
Display	12.1-inch color LCD
Memory capacity	Approx. 100 Mbytes (Total capacity of program and data bank)
External communication	USB memory interface, Ethernet, RS232C (Optional)
No. of registrable programs	4,000 (Total capacity of program and data bank)
Program format	NC language, conversation (changed by parameter) conversion from conversation program to NC language program available

*Number of "control axes" and/or "simultaneously controlled axes" are the maximum number of axes, which will differ depending on the destination country and the machine specifications.
* Ethernet is a trademark or registered trademark of XEROX in the United States.

Standard NC functions		
<ul style="list-style-type: none"> Absolute / incremental Inch / metric Corner C / Corner R Rotational transformation Synchronized tap Coordinate system setting Dry run Restart Backlash compensation Rapid traverse override Cutting feed override Alarm history (1,000 pieces) Startus log Machine lock Computer remote Built-in PLC Motor insulation resistance measurement Operation log Tool monitoring Screen shot Waveform output to memory card Auto notification High-accuracy mode AIII 	<ul style="list-style-type: none"> Tool length measurement Tool life management / spare tool Background editing Graphic display Subprogram Herical / conical interpolation Tool washing filter with filter clogging detection Automatic power off (energy saving function) Servomotor off standby mode (energy saving function) Chip shower off delay Automatic coolant off (energy saving function) Automatic work light off (energy saving function) Heat expansion compensation systemII (X,Y,Z axes) Tap return function Automatic workpiece measurement *1 Waveform display Operation level External input signal key High accuracy mode BI (look-ahead 40blocks) Inverse time feed Spindle load monitoring function 	<ul style="list-style-type: none"> (NC) Expanded workpiece coordinate system Scaling Mirror image Menu programming Programmable data input Tool length compensation Cutter compensation Macro function Local coordinate system One-way positioning Operation in tape mode (Conversation) Operation program Schedule program Automatic tool selection Automatic cutting condition setting Automatic tool length compensation setting Automatic cutter compensation setting Automatic calculation of unknown number input Machining order control
Optional NC functions		
<ul style="list-style-type: none"> Memory expansion (Approx. 500 Mbytes) High accuracy mode BII (look-ahead 200 blocks, smooth path offset) Spindle override High-speed processing *2 	<ul style="list-style-type: none"> (NC) Submicron command *3 Interrupt type macro Rotary fixture offset 	

*1. Measuring instrument needs to be prepared by users. *2. Minute block processing time can be changed.
*3. When the submicron command is used, changing to the conversation program is disabled.
*Functions listed under (NC) and (Conversation) are available only for NC programs and conversation programs respectively.