

CNC Precision Lathe

X-120

NEW



Single Machine for Mass production of Flange and Shaft Type Workpieces

Machine equipped with a sub-spindle as standard for turning complete cut workpieces

●The X-120 can be equipped with a loader or with a barfeeder making it capable of complete turning of flange and shaft type workpieces at mass production level. As standard, a sub-spindle (5 inch, AC3.7/2.2 kW) is installed making it capable of high precision dual face turning by workpiece direct chucking.

Space-saving design

●For manufacturing facilities located in high priced regions, improving the operation per unit area is indispensable. The X-120 provides a wide cutting range with maximum turning length of 300 mm. This machine also features a space saving design with main body length of 1,680 mm and maximum length of 2,000 mm. The slide is inclined at 30-degrees making it suitable for efficient chip disposal. This prevents chip accumulation problems.

Automation System

●"Reliable Automation System" is the theme that TAKAMAZ emphasizes to meet global needs. TAKAMAZ takes pride of the "ΣGH loader" that can be installed on the X-120. This gantry type servo loader has high speed of top level in Japan today. The servo driven hand of the loader can adapt to any motions of loading and unloading. In combination with a barfeeder, a parts catcher, and out conveyor, the X-120 can meet bar workpiece turning.

Machine Specifications

Item		Unit	Main-spindle	Sub-spindle
Capacity	Optimum turning diameter	mm	$\phi 60 \times 80$	
	Max. bar diameter	mm	($\phi 35, \phi 42$)	($\phi 20$)
	Chuck size	inch	Collet, 6	Collet, 5
Spindle	Spindle nose		A2-5	Flat
	Spindle bearing I.D.	mm	$\phi 75$	$\phi 65$
	Spindle speed	min ⁻¹	Max. 4,500 (6,000)	
Tool post	Type		12-station	
	Tool shank	mm	$\square 20$	
	Boring holder I.D.	mm	$\phi 25$	
	Max. stroke	mm	X:170 Z:300 A:350	
	Rapid traverse rate	m/min	X:18 Z:24 A:18	
Motors	Spindle motor	kW	AC5.5/3.7(7.5/5.5)	AC3.7/2.2
	Feed motor	kW	X:2.5 Z:2.7 A:1.0	
	Hydraulic motor	kW	1.5	
Size	L x W x H	mm	2,000 x 1,630 x 1,600	
	Machine weight	kg	3,400	
Total electric capacity		KVA	24 (26: With main spindle AC7.5/5.5)	

():Option

Standard Accessories

- | | |
|--|---|
| <input type="checkbox"/> O.D. holder W..... 2 sets | <input type="checkbox"/> Thread cutting unit 2 sets |
| <input type="checkbox"/> Boring holder W..... 2 sets | <input type="checkbox"/> Coolant unit (130 lit.)..... 1 set |
| <input type="checkbox"/> Sub-spindle..... 1 set | <input type="checkbox"/> Service tool kit 1 set |
| <input type="checkbox"/> Hydraulic chucking cylinder..... 2 sets | <input type="checkbox"/> Instruction manual 1 set |

Optional Accessories

- | | |
|--|---|
| <input type="checkbox"/> Special spindle speed (6,000min ⁻¹) | <input type="checkbox"/> Air blow unit (Front/Rear) |
| <input type="checkbox"/> Spindle $\phi 42$ -mm through (7.5/5/5kW motor) | <input type="checkbox"/> Rear coolant unit |
| <input type="checkbox"/> Stroke adjusting cylinder | <input type="checkbox"/> Signal light (1-color/2-color/3-color) |
| <input type="checkbox"/> Chucking systems | <input type="checkbox"/> Automatic power shut-off device |
| <input type="checkbox"/> Σ GH loader system | <input type="checkbox"/> Automatic fire extinguisher |
| <input type="checkbox"/> Chip conveyor (Right/Rear) (Floor type/Spiral type) | <input type="checkbox"/> Work set detector |
| <input type="checkbox"/> Bar feeder system | <input type="checkbox"/> Cut-off check device |
| <input type="checkbox"/> Parts catcher | <input type="checkbox"/> Special color |
| <input type="checkbox"/> Out conveyor | <input type="checkbox"/> Others |

Controller Specifications

Item	TAKAMAZ & FANUC
Controlled axes	3 axes (X, Z, A)
Simultaneously controllable axes	Simultaneous 3 axes
Least input increment	0.001mm (X in diameter)
Least command increment	X:0.0005mm Z:0.001mm
Auxiliary function	M-code 3 digit
Spindle function	S-code 4 digit
Tool function	T-code 4 digit
Tape code	EIA (RS232C)/ISO (840) automatic recognition
Cutting feedrate	1~5,000mm/min
Command system	Incremental/Absolute
Linear interpolation	G01
Circular interpolation	G02, G03
Cutting feedrate override	0~150%
Rapid traverse override	F0, 100%
Program number	4 digits
Backlash compensation	0~9999 μ m
Part program storage length	640m
Tool offsets	64 sets
Registered programs	400 pcs
Tool geometry/Wear offset	Standard
Canned cycle	G90, G92, G94
Radius designation on arc	Standard
Tool offset measurement input	Standard
Background editing	Standard
Direct drawing dimension programming	Standard
Custom macro	Standard
Additional custom macro common variables	#100~#199, #500~#999
Pattern data input	Standard
Nose R compensation	G40, G41, G42
Inch/Metric conversion	G20/G21
Programmable data input	G10
Run hour/Parts count display	Standard
Extended part program editing	Standard
Multiple repetitive cycle	G70~G76
Multiple repetitive cycle II	Pocket-shaped
Constant surface speed control	G96, G97
Continuous thread cutting	G32
Variable lead thread cutting	G34
Thread cutting retract	Standard
Canned drilling cycle	Standard
Sub-spindle torque skip	Standard
Clock function	Standard
Help function	Standard
Alarm history display	50 pcs.
Self-diagnosis function	Standard
Sub-program call	Up to 4 loops
Decimal point input	Standard
2nd reference point return	G30
Work coordinate system setting	G50, G54~G59
Stored stroke check 1	Standard
Stored stroke check 2, 3	Standard
Input/Output interface	RS232C, Memory card
Alarm message	Standard
Graphic display	Standard
Conversational programming with graphic function	Standard
Abnormal load detection	Standard

Optional Controller Specifications

Spindle orientation	
Option functions	Work/Tool counter, Tool load monitor, Other
Multiple M codes in one block	Max. 3
Tool life management	
Dynamic graphic function	
Spindle synchronous control	

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