

KEEP THIS MANUAL FOR FURTHER REFERENCE

ATTENTION: READ THIS MANUAL CAREFULLY BEFORE USING THE MACHINE

INSTRUCTION MANUAL

CNC TAPPING MACHINE WITH TOUCH PANEL

PARAMETERS TOUCH PANEL CONFIGURATION

- Feed RPM
- Rollback RPM
- Torque
- Thread pitch
- Depth
- Thread direction
- Ratio
- Counter
- Protection response
- Protection threshold
- Servo no load torque
- Pre-configured parameters for metric tapping M1 – M10

Max. tapping capacity

M10 (steel) /M12 (cast iron)

SAFE RULES

- 1、 Read the instruction manual carefully. Understand its structure and functions avoid the potential hazards .
- 2、 Check the voltage and frequency on the nameplate of the motor whether they are consistent with the power source or not before using the machine.
- 3、 All prongs of the power plugs and outlets must be reliable, without laxity ,poor touch and other bad phenomenon
- 4、 Don't abuse wire and drag the power wire. Wire should leave hot, greasy sharp edge locations away.
- 5、 When appears trouble, turn switch "OFF" and remove the plug from the power supply outlet before checking and repairing the machine.
- 6、 This machine must be grounded securely.
- 7、 Keep guards in working order, and in proper adjustment and operation
- 8、 Form a habit of checking to check that keys and adjusting wrenches are removed from tool before turning it on.
- 9、 Keep work area clean. Don't use power tools in mess or damp or weak light or flammable location.
- 10、 The place of padlocks main switches, removing starter keys, or storing tools where children can't get them.
- 11、 All visitors should be keep a safe distance from work area.
- 12、 Don't force tools or spare parts to do a job they were not designed for.
- 13、 Don't wear loose clothing, gloves, necklaces or jewelry to get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair. Rolling sleeves above the elbow.
- 14、 Don't operate the machine after drinking and tiredness.
- 15、 Keep proper footing and balance at all times.
- 16、 Maintain the machine regularly, keep the tools sharp and clean.
- 17、 Make sure switch is in "OFF" position before plugging in order to avoid accident.
- 18、 Use the recommended accessories or unit to avoid hazards.
- 19、 Don't store materials above or near the tool, in case of serious injury.
- 20、 Before using the tool must be check the damageable position seriously to repair or replace timely.
- 21、 When cutting large diameter holes, keep speed slower.
- 22、 Before the machine working must tight the handle which should be clamped the work piece firmly to the tools.

CONTENT

1、 Summary.....2

2、 Technical parameters.....2

3、 Working principle and Structure.....3

4、 Install and adjust.....5

5、 Operation.....6

6、 Lubrication.....7

7、 Trouble shooting.....8

.....Test Certificate

.....Packing List

Thank you for operating the CNC series tapping machine of model. In order to keep the machine in a good working condition, please operate and maintain the machine correctly. Before operating the machine, please read the instruction manual carefully.

1.Summary

The CNC series tapping machine of model compared with ordinary tapping machine working more stable, less noise, more accurate, more sensitive of overload protection, a higher degree of automation. Adjustable speed and torque can be set, pitch can be set, optional processing modes, can be powerful tapping. It applies to the ferrous metals, non-ferrous metal and non-metallic materials frequently tapping, widely used in machinery manufacturing, instrument, hardware, toys and other industries.

2.Technical parameters

Max. Tapping capacity.....: M10mm (steel) / M12mm (cast iron)

Spindle travel..... 80mm

Spindle taper..... B18

Diameter of column..... ϕ 70mm

Spindle speeds.....: 0~600r/min

Distance spindle axis to column generating line..... 218mm

Working surface of base..... 274mm×274mm

Distance spindle nose to base 350mm

Overall size..... 370×490×810mm

Packing dimension..... 465×600×97mm

N.W./G.W..... 100/120kg

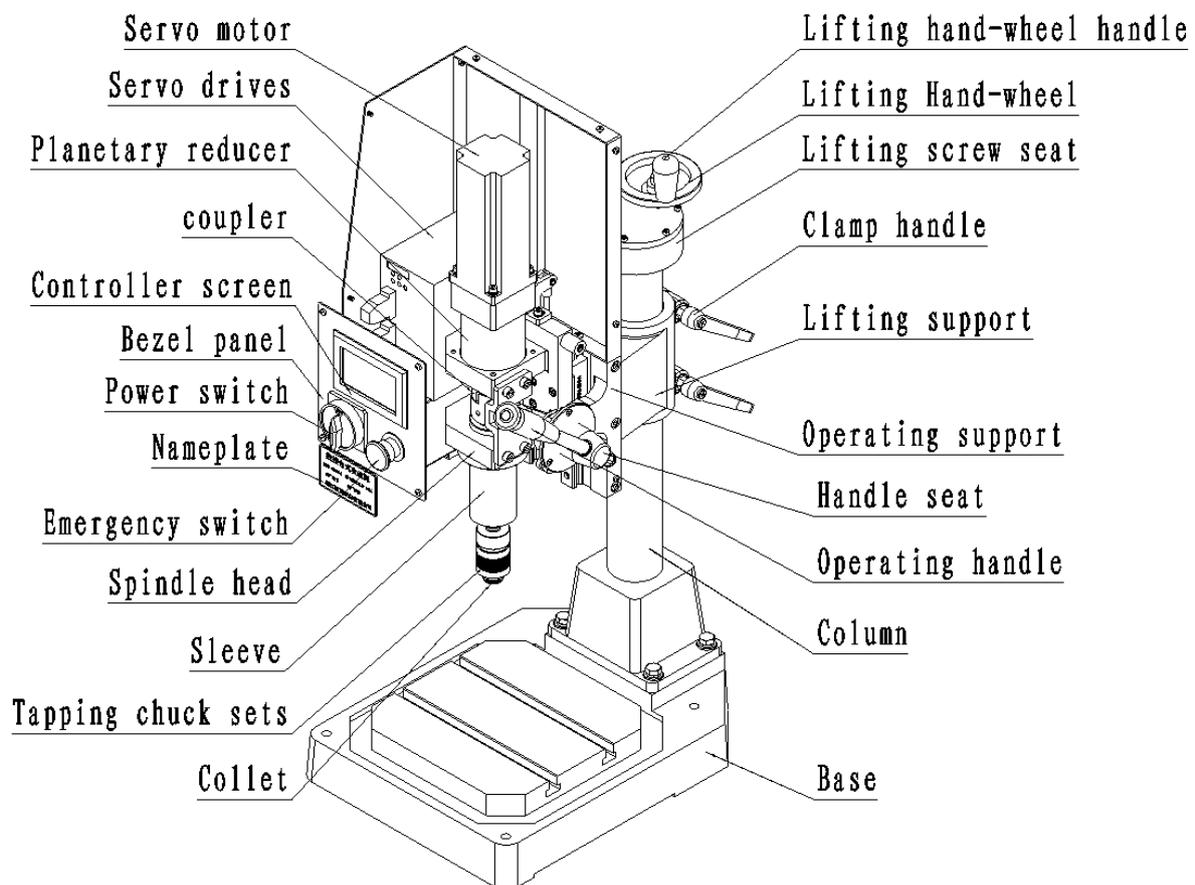
Motor torque..... : 2.4 N·m

Max. Spindle torque.....: 36 N·m

3、 Working principle and Structure

The following figures are the machine outline drawing and function unit drawing.

The machine includes six parts: base, column, elevator, spindle head, planetary reducer, lifting mechanism. Power transmission process is as follows: servo motor through the planetary reducer the reducer driven by cutting plum-type flexible coupling. The spindle speed is infinitely variable. Speed setting can be entered directly on the touch screen controller. Speed setting, pitch settings, torque setting, the depth setting, processing mode selection reference Controller instruction Manual.



Machine tool shape and structure

The machine's electrical system consist of tapping control system, servo motors, drives, transformers, power switch, emergency stop button and the forward-rotation button, reverse button, stop button and connecting cable on the operate handle. Manual mode by the forward-rotation button, reverse button, stop button to control the spindle reversing stops operating. Automatic mode simply press the screw tap into the orifice, press the forward-rotation button to complete the tapping. Electrical wiring diagram in Figure.

(According to customer requirements, can be configured with different specifications of servo motors, reducer)

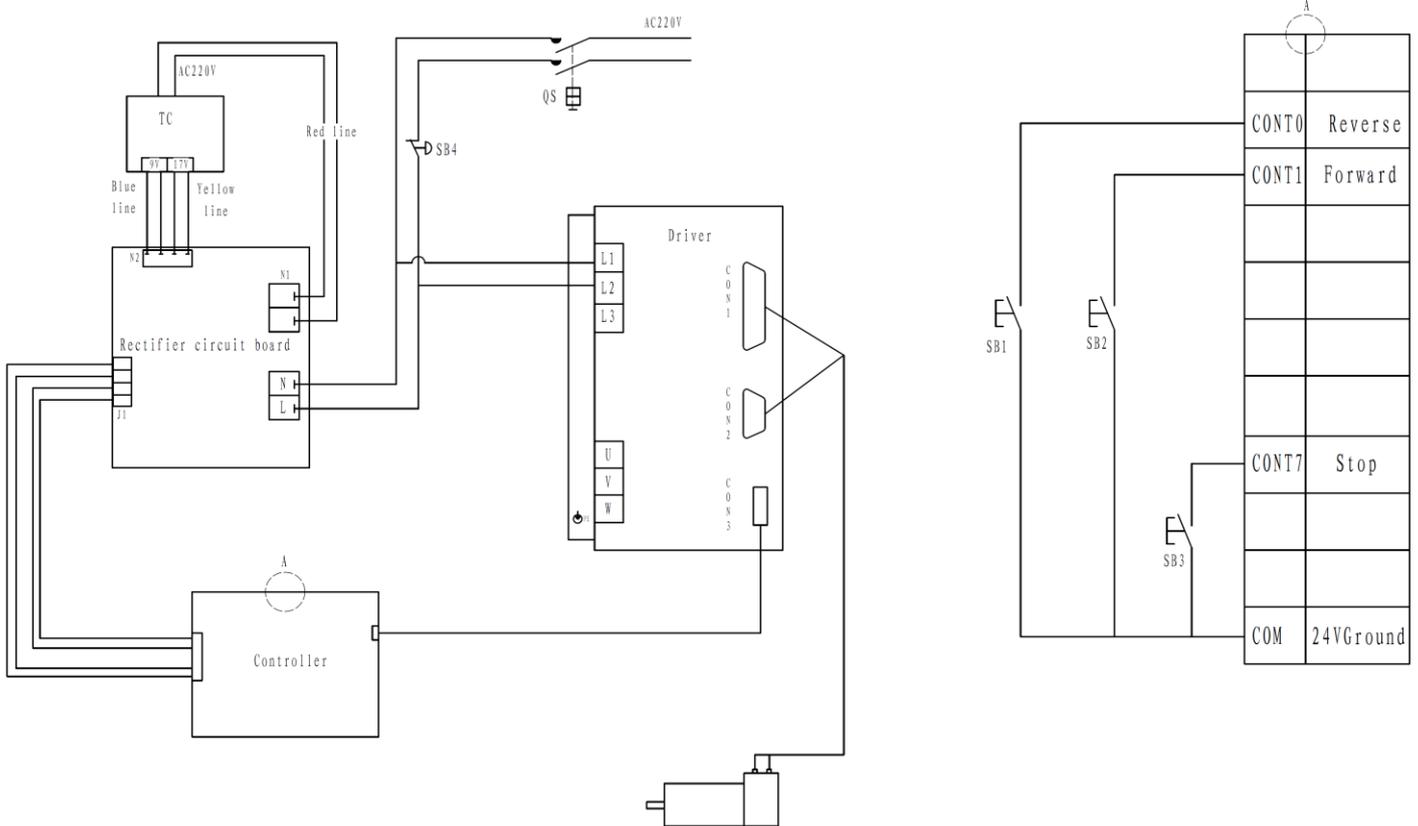
Single-phase Power Requirements: Voltage 220V±10%、Frequency 50Hz。

Before using for the first time, should be inspect the machine, connect the power according to this manual by a qualified electrician.

Suggest taking the way of plugs, sockets when connect the machine power First, disconnect the current-carrying electrode then disconnect the grounding electrode when unplug but just the opposite order by connect the power when plug.

Suggest that user upon the control circuit diagram requirements, should be installed grid-connected delay short-circuit to protect the fuses.

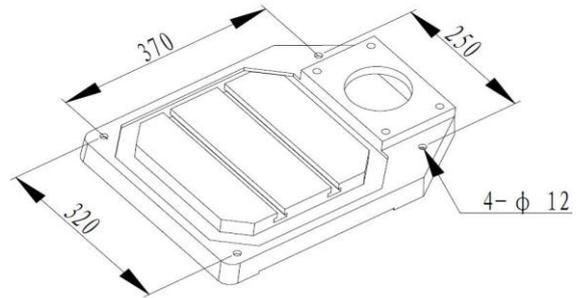
WARNING: Before operating must be ensure safe and reliable grounding !



Electrical wiring diagram

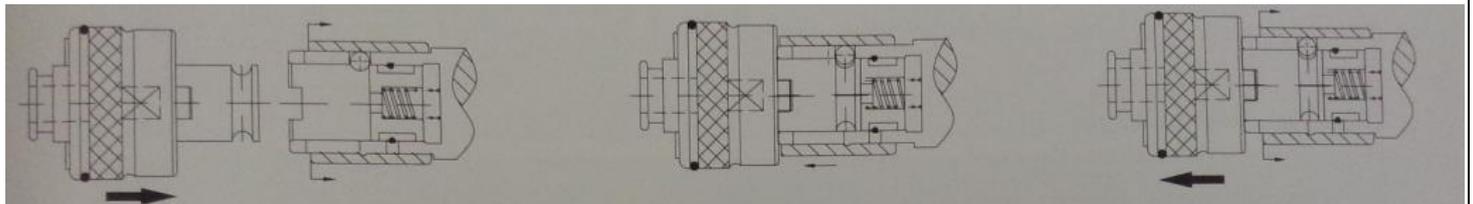
4. Install and adjust

The machine had been assembled before left factory suggest that users fixed the machine on the base to avoid the tools turnover or fall-off. Drill holes in the base according to the size of base table to fixed the machine, and then tighten the tools on the base by bolts.



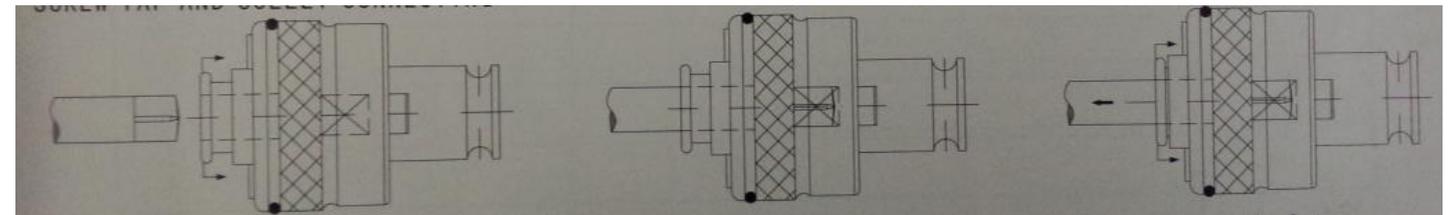
INSTALLING THE TAPPING COLLET: Please clean the tapered hole in the collet and the spindle nose with a clean cloth. Push the collet up on the spindle nose as far as it will go. Turn the collet sleeve clockwise and open jaws in collet completely. Lightly tap the nose of the collet with a piece of wood to insure proper seating of the collet on the spindle.

QUICK CHANGE TAP COLLET INSTALLATION



ready to connect connected separation

SCREW TAP AND COLLET CONNECTING



ready to connect connected separation

5.Operation

5.1. Before using the machine, you must refer to the manual in detail know about the machine structure, each handle functions, transmission and lubrication systems.

5.2. Before operating the machine, according to the lubrication instructions throughout the refueling machine check the spindle head whether it is fixed on the column, and the elevator ,electrical equipment if normal. Such as abnormal situation, first unplug the power cord, then check and repair the machine.

5.3, When the machine running, the hand please do not close the cutting tool, in order to avoid the injury accidents.

5.4. Do not forcibly pull out the machine wire.

5.5. Do not leave the machine when working, so please turn off the machine before people leave.

5.6, when the machine is moving forward, do not do other things on the table in case of injury accident.

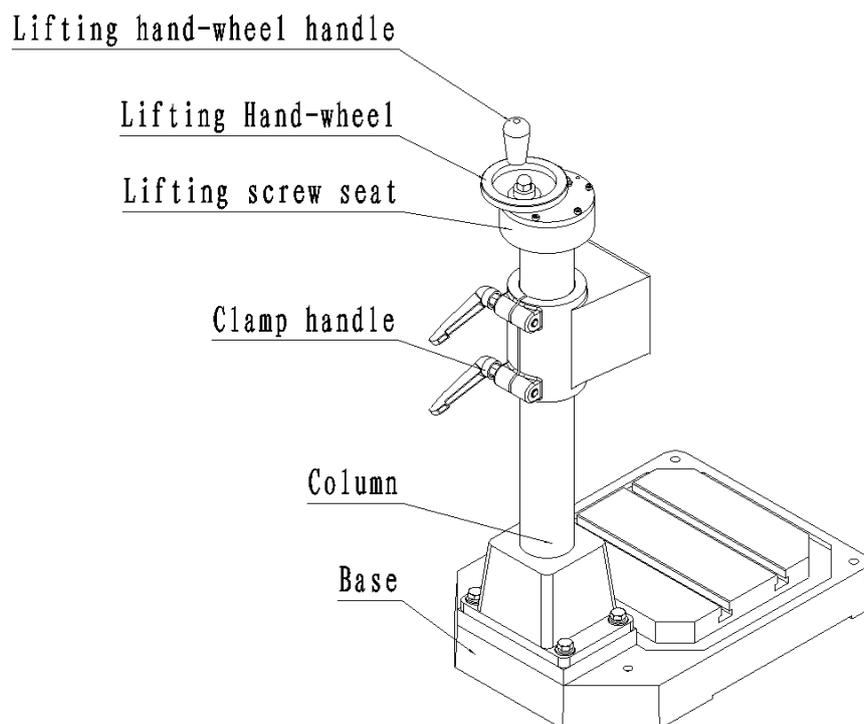
5.7. When installing the tool push the upper tapping sleeve to the top, remove the collet, and then make the outer of tap shank bore aligned with the inner of collet bore press the loose tube of collet head, then insert the screw tap into the inner bore of collet, make the outer of tap shank bore into the inner of collet bore then loosen the sliding sleeve of collet head that is the screw tap was clamped Insert the collet into the tapping chuck hole removed the sliding sleeve on the tapping set to the bottom of the locking collet (otherwise dismounting the screw tap).

Note: When installing or removing the tool please hold the collet, in order to avoid falling!

5.8, elevating and rotating of spindle head.

5.8.1 elevating: Loosen the adjustable locking handle at elevator position, shaking the top of the column lifting the hand-wheel handle, then will be lift along the column to the required location. After lifting, must be clamped the adjustable locking handle.

5.8.2 Rotation of spindle head: Loosen the adjustable locking handle at elevator position the spindle head can be rotate 360 ° around the column. After rotation, must be clamped the adjustable locking handle.



5.9. Suggest that work piece pressing the baseboard by pressboard or fixture, Try to avoid directly with the hand holding the work piece.

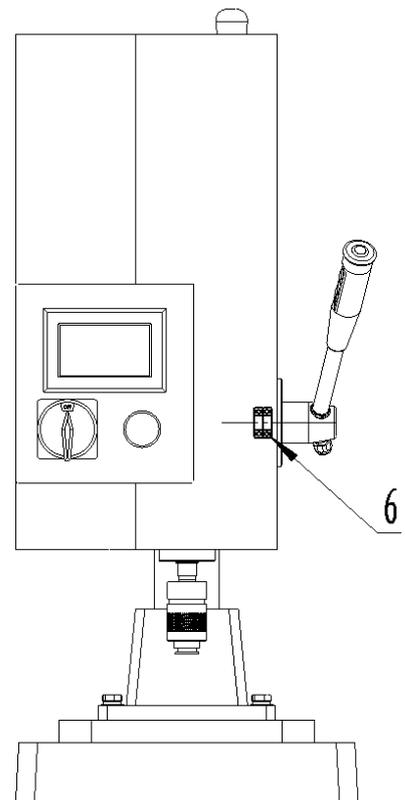
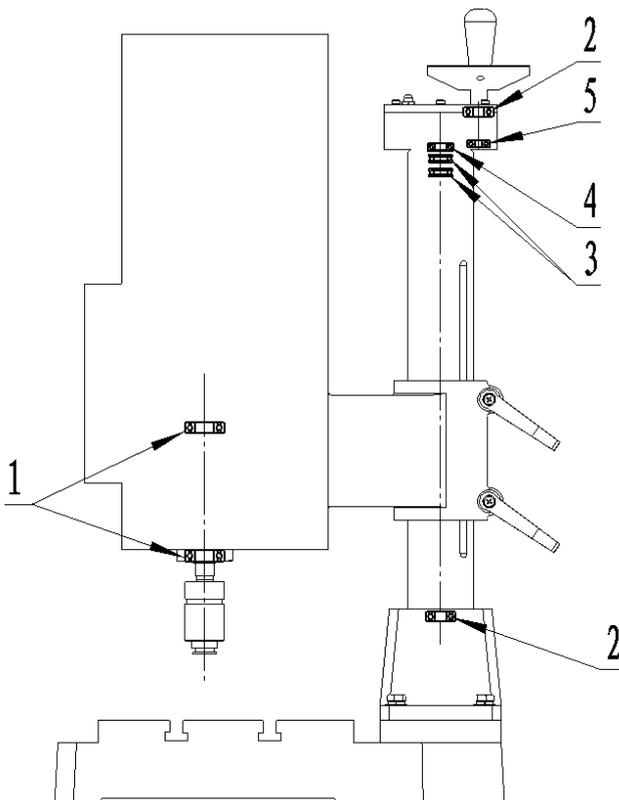
6. Lubrication

6.1 Lubricating the bearing on the spindle regularly and cleaning every years , remove the spindle when lubricating remove the bearing from the sleeve , then pull into the lubricating oil or grease.

6.2 Lubricating other friction parts can be pour into butter from lifting screw shaft.

6.3 After work every day, should be wipe the column surface, and then pour the engine oil.

No	Location	Name	Size	Type	Number	Remarks
1	Spindle sleeve	Deep groove ball bearing	42×20×12	6004	2	
2	Pillar/ Lifting screw hand wheel shaft		32×12×10	6201	1 1	
	3	Lifting screw seat	Thrust bearing	26×12×9	51101	2
4	Lifting screw seat	Deep groove ball bearing	28×12×8	6001	1	
5	hand wheel shaft		24×8×8	628	1	
6	Operations support		32×25×9	6002	2	



7、 Trouble shooting

TROUBLE	PROBABLE CAUSE	REMEDY
a).The spindle sleeve movement is not smooth	1、 Line rail slider sliding is not smooth. 2、 Tap holder weighs more than required.	1、 Filling grease. 2、 Choose the right tap holder.
b).Screw tap can not tap into	1.There is greasy dirty or dust on the interior and exterior cone's surface.	1 Clean it with oil.
	2.The bottom outlet of the nut is too small.	2.Use the twist drill according to the parameter plate.
	3.Overstep its cutting capacity	3.please rational use of the machine.
	4.Tapping nut hole is too deep to cut.	4.Tap out when 1/2 or 1/3 has been done and tap into. Repeat this for two or three times to finish tapping.
	5.The rotating direction of the spindle is wrong.	5.Change it.
	6.User parameter is wrong.	6.Please follow System instructions.
c).Tapping depth does not meet expectations	1.began tapping tap haven't contact with the work piece.	1.Tapping the tap before come into contact with the work piece.
d).The tap is easy to break	1.The lap jumps greatly	1.See the classification .
	2.The hardness of work piece is too high	2.Amend it.
	3.The edge of tap is dull or it has a poor quality.	3.Choose a tap in good quality.
	4.The bottom outlet isn't aligned with the centre line of the tap.	4. Alignment after tapping.
	5.There are crumbs on the bottom outlet.	5.Wipe them off.
	6.The speed of spindle and the cutting oil are not well chosen.	6.Choose them property.
e).The tap moves up and down greatly alone radial	1.The tree hands of drill chuck do not clamp evenly.	1.Make them clamp evenly.
	2.The surface of the spindle is worn.	2.Change it.

CNC SERIES TAPPING MACHINE

TEST CERTIFICATE

MAX.TAPPING CAPACITY:

M10(steel)/M12mm(cast iron)

The machine had been tested according to the specified standard JB/T8600.1-1997 and technical requirement for desktop tapping machine precision inspection, after qualified inspection, granted for delivery

Director:
Chief of Inspection Department:
Date:
Attached : Test Chart

Precision Inspection Record List

NO	Inspection Name	Inspection Fig	Allowed Error	Practical
			Precision (mm)	
G1	Plane degree of base working face		At 300measuring unite: 0.03 plane or concave	
G2	Outside the spindle taper hole axis adialrunout		I : 0.010 II : a) 0.015 b) 0.020	
G3	Spindle axis on the base of the perpendicularity		a) 0.06/300 ^a ($\alpha \leq 90^\circ$) b) 0.06/300 ^a	
G4	The verticality of the working table spindle axis		a: 0.045/100 b: 0.045/100	

CNC SERIES TAPPING MACHINE

MODEL

PACKING LIST

MAX. TAPPING CAPACITY:
M10(steel)/M12mm(cast iron)

PACKING LIST

Page 2 of 2

Serial No:

Packing dimension(L×H×W):46.5cm×60cm×97cm

G.W.: 120kg

N.W.: 100kg

NO.	Name	Specifications Model	Amount	Remark
1	CNC series tapping machine	1	1	
2	Tapping chuck sets	B18-G0312	1	
3	Collet	M3、M4、M5、M6/M8、M10、M12	6	
4	Collet	M3、M4、M5、M6/M8、M10、M12、 M14、M16	8	
5	Allen wrench	S3、S4、S5	3	
6	System user manual +instruction manual / test certificate / packing list		2	

Inspector:

Date: