INSTALLATION & COMMISSIONING MANUAL

NC500

Installation Manual

Installation and Commissioning Guide



Item	Description
Document version	V1.2
Applicable model	NC500
Reference	NC500-INSTALL.mp4 Installation demonstration video
Issue date	2026-06-24

This document is prepared from the installation demonstration video for on-site installation and commissioning personnel. For questions, contact the equipment supplier or after-sales service.

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01 Safety Instructions

Safety Warning Please read the following safety precautions before installation.

No.	Precautions
1	Installers shall have mechanical installation experience; use two or more people when needed
2	Before energizing, verify all cables and air lines are correct with no shorts or leaks
3	During commissioning, keep hands and tools away from moving parts (press plate, guides, drag chain)
4	Red E-stop is at the upper-left of the control panel; press immediately if abnormal
5	After installation, remove all blue protective film before operation
6	Wear protective gloves to avoid cuts from sharp edges or rotating parts

02 Packing List

After unboxing, check the following parts one by one:

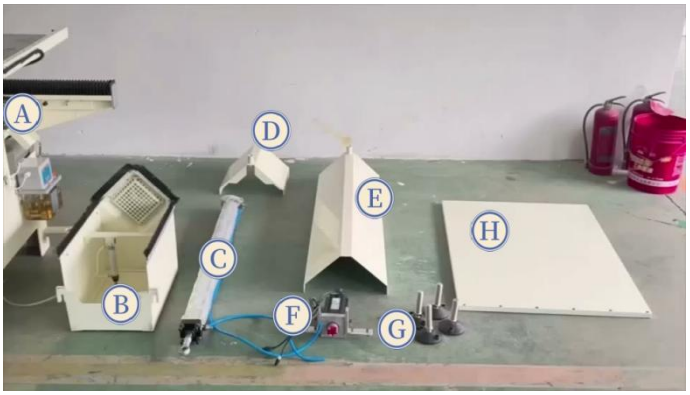


Fig. 1 Unboxing parts inventory

Legend

A	Main unit guide rail and control cabinet	**B**	Dust collection / receiving bin
C	Pneumatic cylinder	**D**	Small V-shaped cover
E	Large V-shaped cover	**F**	Motor / drive unit
G	Leveling feet (4 pcs)	**H**	Side panel / cover plate

No.	Part name	Qty
A	Main unit (incl. control cabinet and lubrication system)	1 unit
B	Dust collection / receiving bin	1
C	Pneumatic cylinder	1 set
D	Small V-shaped cover	1
E	Large V-shaped cover	1
F	Motor / drive unit	1 set
G	Leveling feet	4
H	Side panel / cover plate	1 piece

Tips: If any accessories are found to be missing or damaged, please contact the supplier immediately and do not force installation.

03 Installation Environment Requirements

Item	Requirement
Floor	Flat and solid; concrete or industrial floor recommended
Space	Allow ≥ 800 mm clearance on all sides for operation and maintenance
Power supply	Connect per nameplate requirements; reliable grounding
Air supply	Compressed air; pressure and flow per technical specifications
Temperature	0 °C ~ 40 °C; avoid direct sunlight and humid environments

04 Tools Required

The following tools are required during installation:

- Hex key (L-type, various sizes)
- Ratchet wrench
- Phillips / flat-head screwdriver
- Spirit level
- Tape measure
- Protective gloves

05 Installation Procedure

STEP 01 Host positioning and leveling

1. Move the main unit to the installation location.
2. Install 4 leveling feet and level the machine with a spirit level.
3. Confirm the main frame is stable and all connections are secure.

STEP 02 Install pneumatic cylinder

1. Remove the pneumatic cylinder assembly and verify both end brackets are intact.
2. Mount the cylinder on the top crossbeam of the main unit, aligning the mounting holes.
3. Connect blue air lines to the pneumatic ports; tighten fittings and check for leaks.



Fig. 2 Install pneumatic cylinder

Legend

A	Cylinder being installed	B	Control cabinet / operator panel
C	Cylinder awaiting installation	D	Cable drag chain

Note: The cylinder comes with a blue protective film when it leaves the factory. It should be removed after all installation and debugging are completed.

STEP 03 Adjust press plate height

1. Locate the 3 white adjustment screws on top of the press plate.
2. Adjust each screw by hand or with a tool until the press plate is level and at uniform height.
3. Keep adjustment on all three screws as equal as possible to avoid tilting the press plate.



Fig. 3 Adjust press plate height screws

Legend

A	Left adjustment screw	B	Center adjustment screw
C	Right adjustment screw		

STEP 04 Connect cables and air lines

1. Connect the control cabinet top connectors to the matching cable interfaces.
2. Route cables inside the blue protective sleeve to avoid interference with the drag chain.
3. Check that the right-side corrugated tube and support rod are securely fixed.
4. Ensure cables inside the drag chain are neatly arranged and not pinched.

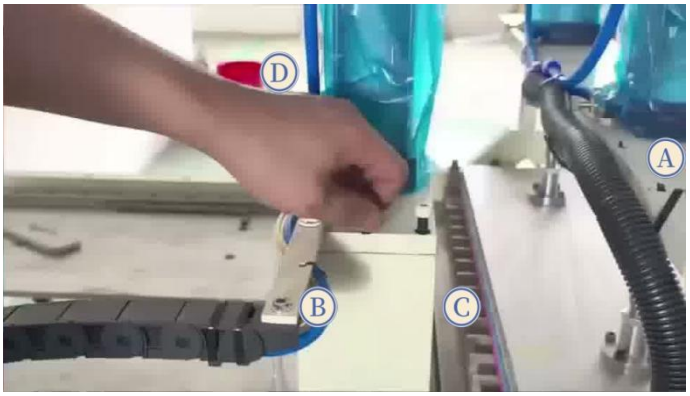


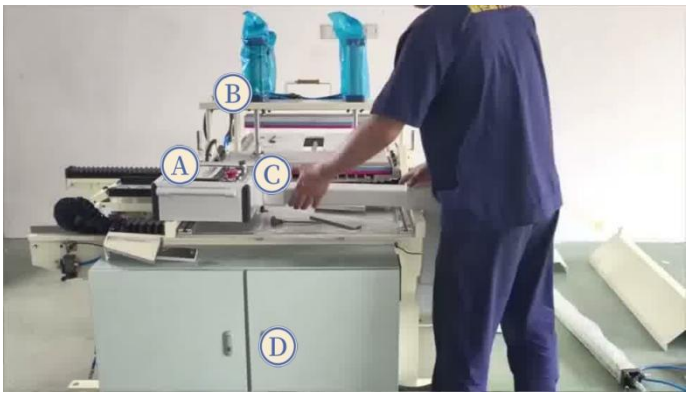
Fig. 4 Connect cables and fittings

Legend

A	Pneumatic lines and fittings	B	Cable drag chain
C	Feed rack guide rail	D	Control cabinet top wiring

STEP 05 Install control panel cantilever

1. Mount the control panel on the main unit side using the white cantilever arm.
2. Adjust arm height and angle for easy operator viewing and control.
3. Connect control panel power and signal cables; verify plugs are fully seated.



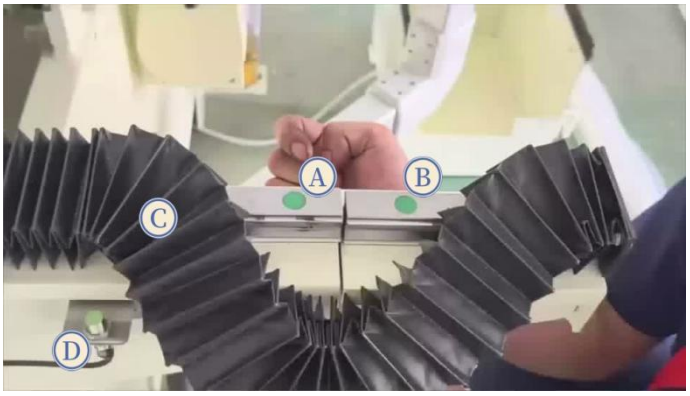
Legend

A	Control panel	**B**	Top crossbeam / cylinder bracket
C	Cantilever arm	**D**	Bottom electrical cabinet

Fig. 5 Install control panel cantilever

STEP 06 Install bellows protective cover

1. Remove the black bellows-type (fold-type) protective cover.
2. Align the cover with the guide rail/ball screw and install using the green alignment marks.
3. Press the metal slider by hand to confirm the cover fits the guide rail properly.
4. Check the sensor bracket position and ensure green labels face the correct direction.



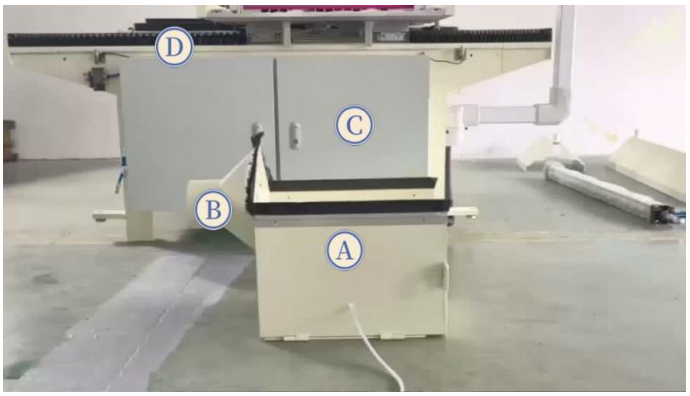
Legend

A	Left green alignment mark	**B**	Right green alignment mark
C	Bellows-type protective cover	**D**	Proximity switch / sensor

Fig. 6 Install bellows protective cover

STEP 07 Install dust collection unit

1. Place the dust box (vacuum hood) at the corresponding position in front of the main unit.
2. Aim at the feed inlet and confirm that the black brush strip on the top is aligned with the brush strip of the main machine.
3. Connect the white hose/cable from the dust collection unit to the host interface.
4. Check the direction of ground cables to avoid tripping operators.



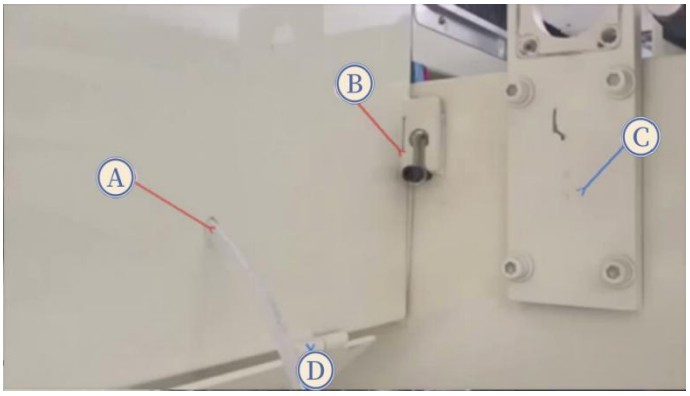
Legend

A	Dust collection bin	**B**	Dust suction funnel duct
C	Electrical cabinet door	**D**	Main frame / guide rail

Fig. 7 Install dust collection unit

STEP 08 Install side panel and cover

1. Align the side panel/cover panel with the hinge and mounting holes.
2. Pass the white cable/tube through the panel hole.
3. Engage the side latches/latches to ensure the panel is securely closed.
4. Fasten the mounting plate with hexagon socket head bolts (4 large bolts per side).



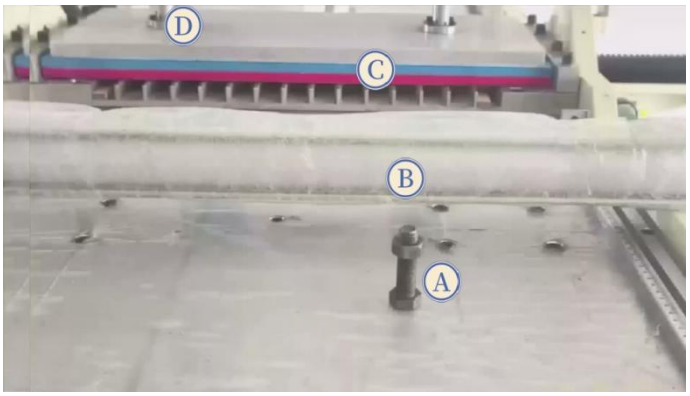
Legend

A	Cable pass-through hole	**B**	Side latch / locking pin
C	Mounting plate (bolt fixed)	**D**	Bottom hinge

Fig. 8 Install side panel and cover

STEP 09 Install press plate and feed mechanism

1. Confirm that the pressure plate mechanism (blue + pink layered pressure strips) is installed in place.
2. Check whether the comb/rollers on the feed rail are flexible.
3. Remove the blue protective film on the pressure plate and cylinder.
4. Push the pressure plate manually to confirm that there is no jamming in the lifting stroke.



Legend

A	Worktable positioning bolt	**B**	Film-protected pressing bar
C	Press plate assembly (blue/pink layers)	**D**	Upper press plate mounting plate

Fig. 9 Press plate and feed mechanism

STEP 10 Adjust internal mechanism

10.1 Ratchet wrench adjustment

Insert a ratchet wrench into the adjustment hole on the white mounting block to adjust internal tension or alignment.



Fig. 10 Ratchet wrench adjustment

Legend

A	Ratchet wrench	**B**	Adjustment shaft / fastening point
C	Film-protected crossbeam	**D**	Bellows-type protective cover

10.2 Sensor adjustment

Check the internal proximity switch/sensor bracket and fine-tune sensor position with a wrench to ensure proper sensing distance.

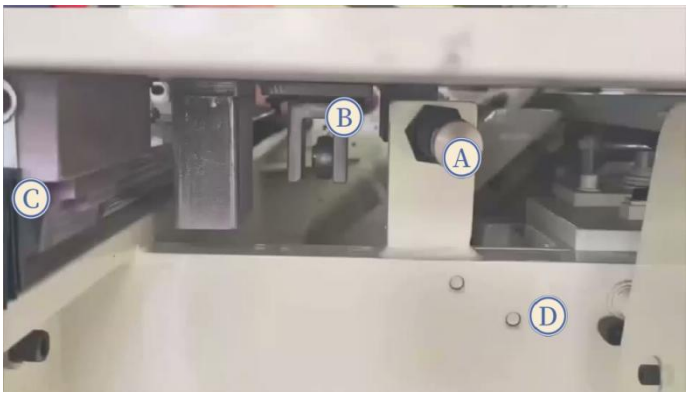


Fig. 11 Sensor position adjustment

Legend

A	Proximity switch / adjustment nut	**B**	U-shaped guide bracket
C	Feed guide rail	**D**	Mounting bolt

STEP 11 Install feed motor

1. Install the black cylindrical servo/stepper motor onto the end of the linear slide.
2. The motor is connected to the lead screw through a red coupling.
3. Wear gloves and tighten motor mounting flange bolts with a hex key.
4. Connect the motor power cable and signal cable, and insert them into the drag chain.

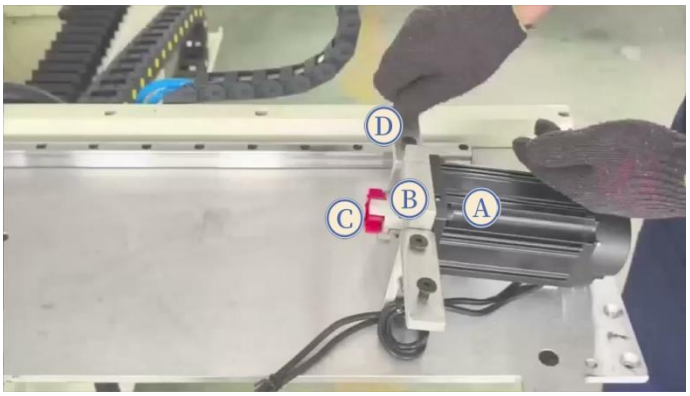


Fig. 12 Install feed motor

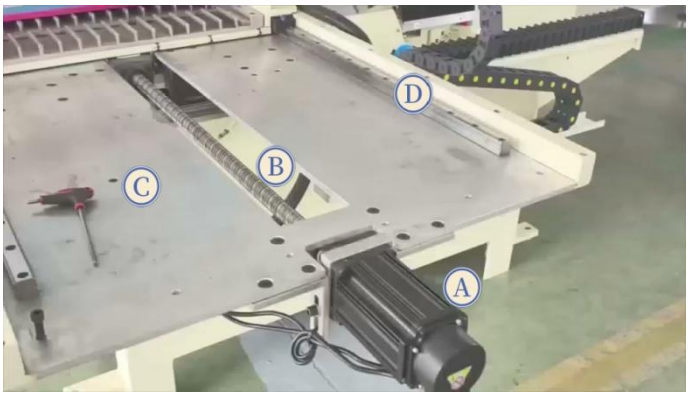
Legend

A	Servo / stepper motor	**B**	Motor mounting flange
C	Limit switch / connector	**D**	Fastening bolt

STEP 12 Install ball screw and linear guides

1. Make sure the ball screw and linear guide are installed parallel to each other.
2. Check whether the reserved holes on the metal plate of the slide table are clean.
3. Tighten guide rail and ball screw support bolts with a hex key.

4. Manually rotate the coupling to confirm that the slide table moves smoothly throughout the entire process without any obstruction.



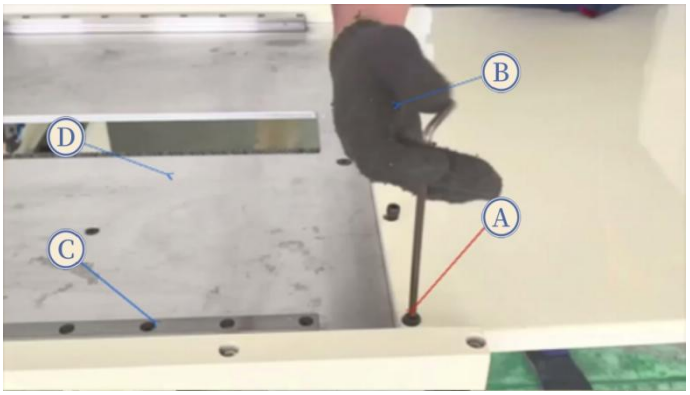
Legend

A	Feed motor	**B**	Ball screw
C	Slide mounting plate	**D**	Linear guide rail

Fig. 13 Ball screw and linear guides

STEP 13 Final tightening check

1. Check all bolt tightness one by one with a hex key.
2. Key inspections: side plate bolts, guide rail bolts, motor flange bolts, pressure plate bracket bolts.
3. Make sure there is no interference or excessive bending in the drag chain, bellows, and air pipe.



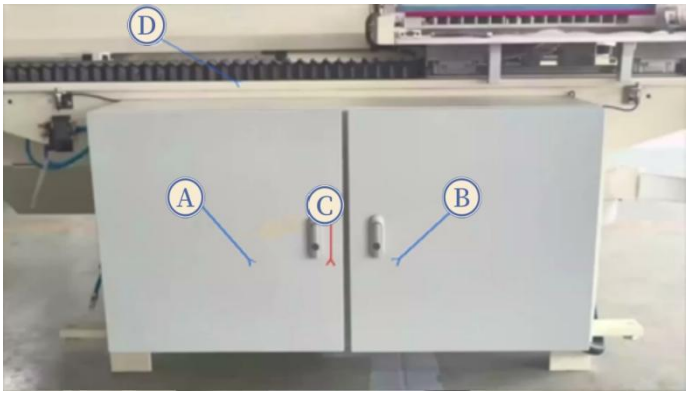
Legend

A	Fastening bolt	**B**	Hex key (Allen wrench)
C	Guide rail mounting hole	**D**	Metal mounting base plate

Fig. 14 Hex bolt tightening

STEP 14 Final appearance confirmation

After installation, the front of the machine should appear as shown below:



Legend

A	Left cabinet door	**B**	Right cabinet door
C	Cabinet door handle	**D**	Upper guide rail / drag chain

Fig. 15 Front view of complete machine

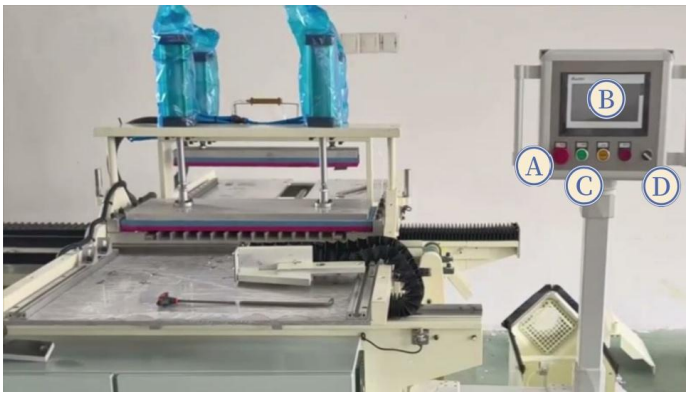
Inspection checklist:

- [ ] The bottom double-door cabinet is closed in place
- [ ] The top drag chain is installed correctly

- [ ] The air pipe connections on both sides are leak-free
- [ ] The control panel cantilever is fixed reliably
- [ ] All blue protective films have been removed

06 Control Panel Description

06 Control Panel Description



Legend

	Stop button (red)		Touch screen
	Start button (green)		Emergency stop button

Fig. 16 Control panel components

Operating sequence:

Turn key switch ON → Touch screen power-on self-test → Set parameters → Press START to run

07 Trial Run and Acceptance

7.1 Inspection before test run

- [ ] The power and air source are connected
- [ ] All installation steps completed
- [ ] No tools or debris within the movement range
- [ ] The emergency stop button functions normally

7.2 No-load test machine

1. Select manual mode on the touch screen.
2. Test separately: pressure plate lifting, feeding movement, drag chain walking.
3. Observe whether there are any abnormal sounds, air leakage, or jamming.

7.3 Test machine with material

1. Take a standard plate (white panel) and place it on the work surface.
2. Align the feed rails to confirm that the sheet is in the correct position.
3. Start the automatic mode and observe the entire processing process.
4. Check whether the processing effect meets the requirements.

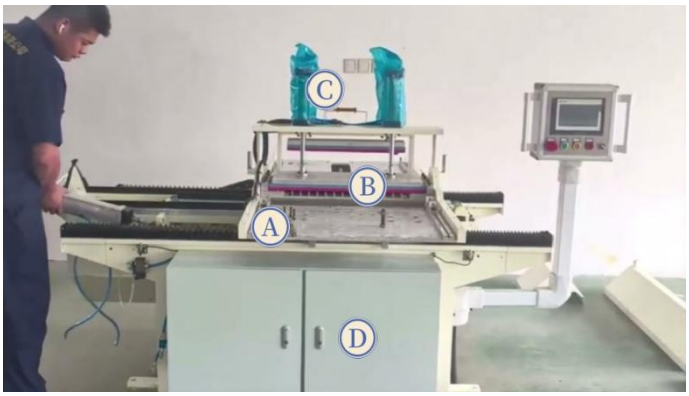


Fig. 17 Full machine trial operation

Legend

A	Worktable / feed area	**B**	Press plate assembly
C	Clamping cylinder	**D**	Bottom electrical cabinet

7.4 Acceptance criteria

Inspection item	Acceptance criteria
Machine level	Spirit level check passed
Press plate movement	Smooth up/down motion, no abnormal vibration
Feed motion	Full travel smooth, positioning accurate
Pneumatic circuit	No air leaks, stable pressure
Electrical system	No alarms, all functions normal
Safety	E-stop effective, guards intact

08 Routine Maintenance

Interval	Maintenance task
Daily	Clean the debris on the work surface and brush bar; check the emergency stop button
Weekly	Check whether the air pipe joint is leaking; clean the surface of the drag chain
Monthly	Check the lubrication status of the screw and guide rail; tighten loose bolts
Quarterly	Replace/replenish lubricating oil; check sensor sensitivity
Annually	Comprehensive overhaul, contact professionals for in-depth maintenance

09 Troubleshooting

Q1 Press plate does not move or moves slowly?

- Check whether air supply pressure is normal
- Check blue air lines for leaks or kinks
- Confirm cylinder protective film has been removed

Q2 Feed motion stutters or jams?

- Check whether ball screw and guides need lubrication
- Confirm bellows cover is installed correctly without interference
- Check motor coupling for looseness

Q3 No display on control panel?

- Check whether key switch is ON
- Verify power wiring is correct
- Check touch screen rear cables are firmly connected

Q4 Unsatisfactory processing result?

- Readjust press plate height (three white adjustment screws)
- Check feed guide rail alignment
- Reset processing parameters on the touch screen

Appendix Documentation Information

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