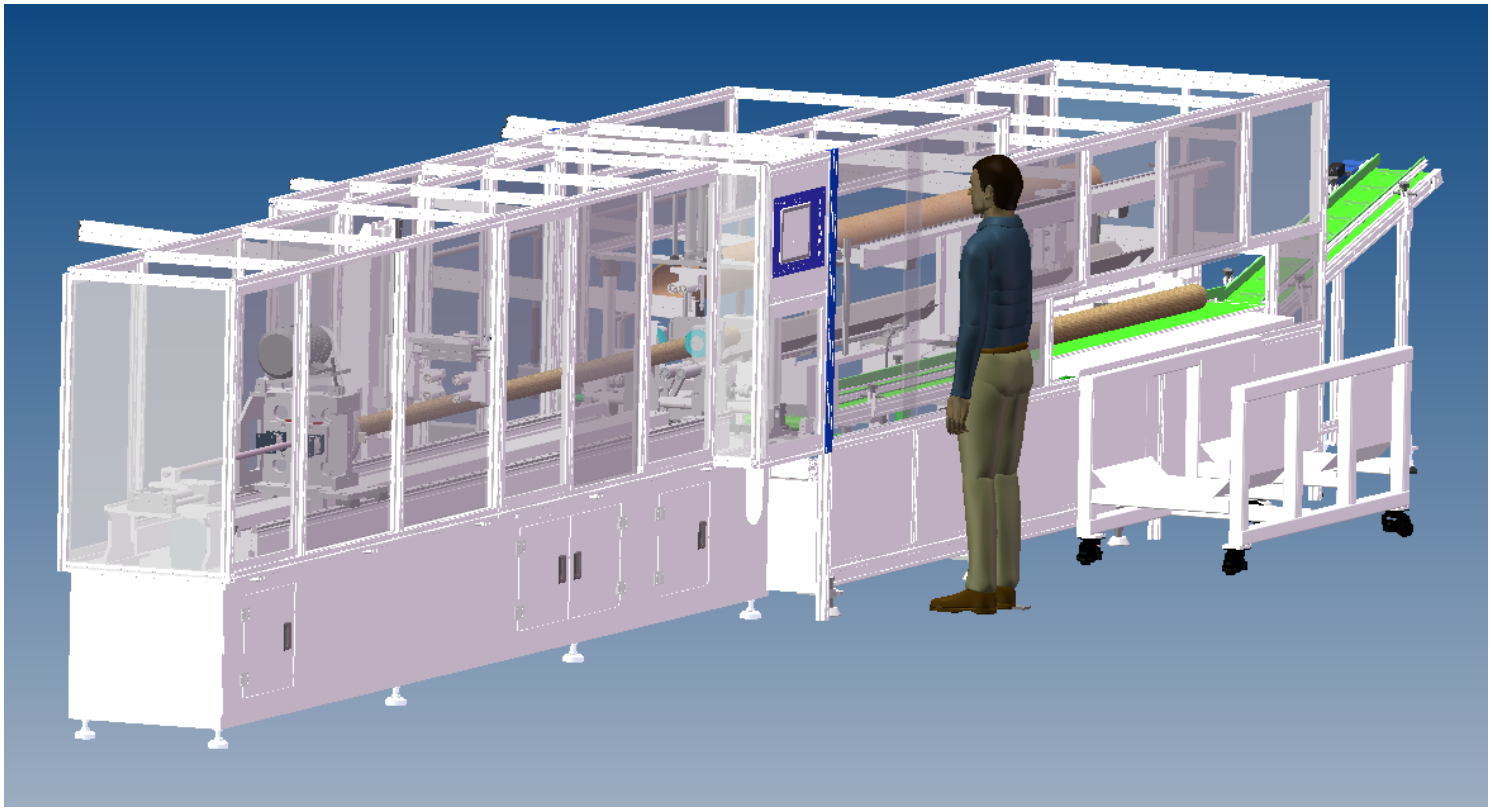
BERKELEY
MACHINERY

Visicut 3850 OPERATION MANUAL

Fully Automatic Paper Core Cutting Machine



Index of Contents

1.0 Technical parameters

Manufacturer information

Berkeley Machinery, Eagle Business Park,

Units 11 & 12 Talon Court, Yaxley,

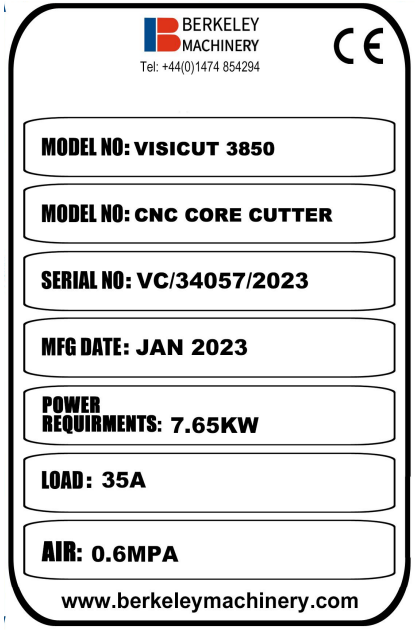
Peterborough PE7 3EH

Tel:+44(0) 1474 854 294

Website: www.berkeleymachinery.com

E-mail: info@berkeleymachinery.com

Machine model & ID plate



Main technical parameters

Max Paper Core Length	3850mm
Paper Core Inner Diameter	38-152.4mm
Maximum Paper Core Thickness	17mm
Cutting Length	10-1925mm
Cutting Speed	60 Cuts/Min
Cutting Accuracy	+(-)0.2mm
Cutting Mode	Paper Tube Rotates, Blades and Mandrel Keep Static
Blades	Automatic Rotation
Module	2 Sets
Paper Core Preloading	Manual
Working Pressure	0.6Mpa
Voltage	220 / 380V

2.0 Safety notice

Index of Contents

SAFETY NOTICE

Each person who works with this machine or carries out repair work or maintenance work must read and understand this chapter

Symbols

The following warnings in the form of symbols are fixed on the machine.

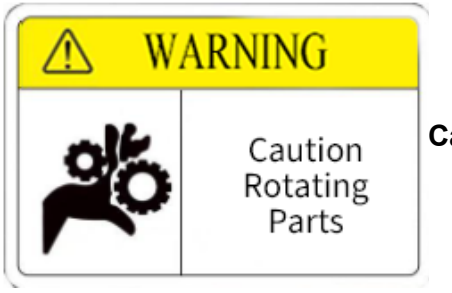
Be careful where this symbol is on the machine, improper operation may cause injuries.

Symbols on the machine

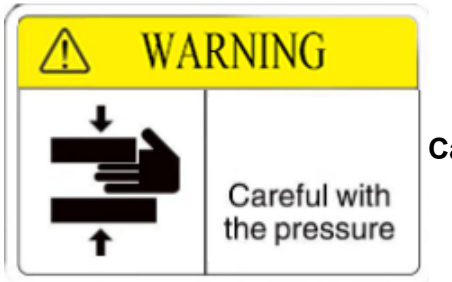
The following warnings in the form of symbols are fixed on the machine.

Caution - Electric Danger.

Warning about mechanical injury for fingers.

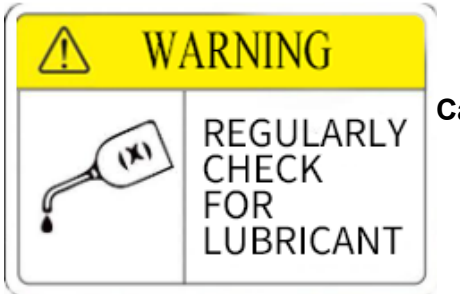


Caution about rotating parts.



Caution, about mechanical pressing down on hand.

Warning about mechanical injury for foot.



Caution, lubricate the parts regularly.

Caution, Mind Your Head.

Warning, do not operate without authorization.

Conventional use

The machine as well as the equipment has been manufactured according to the latest standards and safety regulations. Special care must be taken to prevent both personal injury and physical damage.

Machine and equipment must be in perfect condition and operated only by trained workers. Any troubleshooting, have an effect on the mechanical safety, should be solved or repaired immediately.

The machine is manufactured to cut longer tube to smaller cut cores.

The manufacturer should not take over any responsibility for damages resulting from use for any purpose not allowed. Unconventional use occurs due to activities which are not according to this manual and/or the regulations of maintenance.

Systematic actions

The operation manual should always be placed in clear sight where the machine is in use.

It is required to observe all general regulations in order to prevent injuries and damages as well as to keep the conditions safe.

Regulations in view of dangerous goods and traffic rules are to be strictly obeyed.

That applies also to welding- of constructional parts, installation and safety devices and valves.

Spare parts should be exchanged according to the technical regulations stated by the manufacturer. Original spare parts are recommended. Amendments in view of the software are not allowed.

Operator duties

All operating works on the machine should be performed by a skilled operator, legal regulations in view of minimum age must be observed. The operator’s individual duties for operation preparation, maintenance and repair should be clearly classified. Only trained personnel should be appointed.

Only explicitly authorized workers should handle the machine.

The operator should have the responsibility and the authority to deny mechanical workings which are not according to the transport and safety regulations.

Training and work on the machine are strictly forbidden without the attendance of a trained operator.

All electric works of system and equipment should be performed by only the skilled technician.

Safety requirements in standard & special operation

Standard operation

Avoid operating in any mode which is not good for safety.

All necessary actions which could endanger safety should be avoided. Take all actions to guarantee safety.

Start operating the machine only when protective and safe devices as separated type, safety device, emergency stop device, sound-warning device and exhaust device are working in proper condition.

Machine and equipment should be checked in view of damages or malfunction regularly with change of shift. Changes or trouble have to be reported to the person in charge, if applicable, stop the machine and lock it. When malfunction or any other error occurs, stop the machine immediately and lock it.

When starting or stopping the machine it is required to always check indicators as explained in the operation manual.

Before starting, consider the danger of third parties.

Never stop operating the suction mechanism during the working process.

Special operation

Spare parts used for maintenance or repair must be disposed of. The control- maintenance- and repair work stated in the manual must be strictly observed periodically, as well as the regulations for changes of spare parts. The work should be done by authorized personnel only.

A person in charge should be appointed before starting maintenance and repair works. Check the safety of the working place.

If the machine is stopped because of maintenance and repairing, make sure that it will not start unexpectedly.

Put a warning board on the power switch before locking the power switch.

Before maintenance or repair work, connections and bolting should be cleaned of oil and glue. Never use caustic cleanser, and only fiber-free cleansing towels.

All opened bolting connections should be activated after work. All work needs to be according to the operation manual.

All shut down, dismantled safety devices should be replaced after the work process. Wear and tear elements should be disposed of safely according to the regulations.

Electric device

Only use original fuses according to the stated voltage and amperage. Stop the machine immediately when malfunctions occur.

Electric system and electric equipment should be done by a skilled electrician or finished by a trained engineer under the electrician's supervision, which should accord with the regulations..

The machine must be shut down before maintenance, repair or control workings, according to the stated rules.

An inspection of the electric equipment should be made periodically. Loose, damaged or not fixed connections should be disposed of immediately.

When handling the voltage components, another electrician has to be there to press the emergency stop button, as a precaution.. The working area needs to be surrounded by red and white safety tape. Only use insulating tools.

Gas, dust, stream and smog

Before using the machine for welding, cutting and burnishing, clean up dust and other tinder around the work area. These working processes should only be made by trained personnel.

When working in a narrow closed area please observe the national regulations.

Oil, Grease, miscellaneous chemicals

During working with oil, grease and miscellaneous chemicals the regulations have to be observed.

Be careful with hot lubricant and auxiliary materials. (Danger of fire)

Important Safety points

1. Before starting the machine, check all parts and buttons and see if all of them are in their intended working position. All safety facilities are in normal position. Note that the people around the machine are in a safe position.

2. If the machine suddenly stops working, do not restart immediately, the trained personnel should press the "stop" button, and find the reason for the sudden stop. If the machine has a problem, then ask a professional technician to repair it, after troubleshooting, then restart the machine.

3. When the machine is running, no adjustment shall be made. Except the allowed adjustable parts. All other adjustments and maintenance shall be done when the machine is completely stopped. Don't put your hands into the machine running section until the machine is fully stopped.

4. Do not use improper tools to fix the machine. After the maintenance job is done, check the tools and clean away the wasted materials, in case of any malfunctions.

5. When the machine is powered on, do not open the electric cabinet. Please allow professional and qualified employees to do the electric operation job.

6. It is forbidden for unauthorized personnel to adjust the machine. When the machine is running, it is strictly prohibited to climb over or through into the machine.

7. Do maintenance and replace the defective and damaged safety devices in time. And quickly report any abnormal conditions.

8. Keep the machine surrounding clean, tidy the tools, and sweep away the wasted paper.

10. Keep this operation manual safe, and keep it where it can be easily accessed.. If the manual is lost, please contact us directly.

3.0 Transportation & Storage

Qualified technicians are required for fork truck and crane operation. Wire rope or ring belt must be used to the specification which is matched to the machine weight. Please pay attention not to collide with other objects in the surrounding areas.

During transport, the temporary storage temperature should be between 68 °F - 100 °F

In the process of transport and storage, the machine should not be drenched by rain or water.

In the process of transport and storage, the machine should not be in contact with corrosive gasses.

In the process of transport and storage, the machine should not be inverted.

In the process of transport and storage, the machine should not impact or fall down.

4.0 Installation

Index of Contents

Unpacking, transport and movements of the machine.

No person should be allowed to be next to the machine while executing the above.

Environment temperature: 0 °F- 104 °F, relative humidity below 85%.

Avoid strong electromagnetic interference around the machine.

Do not open the electrical case when the machine is powered, only professional people can operate the electrical installations.

After unloading

- Lifting equipment for 5 tons is required.
- Remove all packing.
- Check machine and spare parts in view of probable damages.
- Check completeness of spare parts.

In case of damage please inform the below mentioned companies in written form:

- Railway company, truck forwarder or shipping company
- Insurance company
- Berkeley Machinery

Installation location and condition

- Vibration-free
- Land subsidence shall not be greater than 2%, hard surface
- No need to fix it with screws and bolts into the ground after machine leveling.

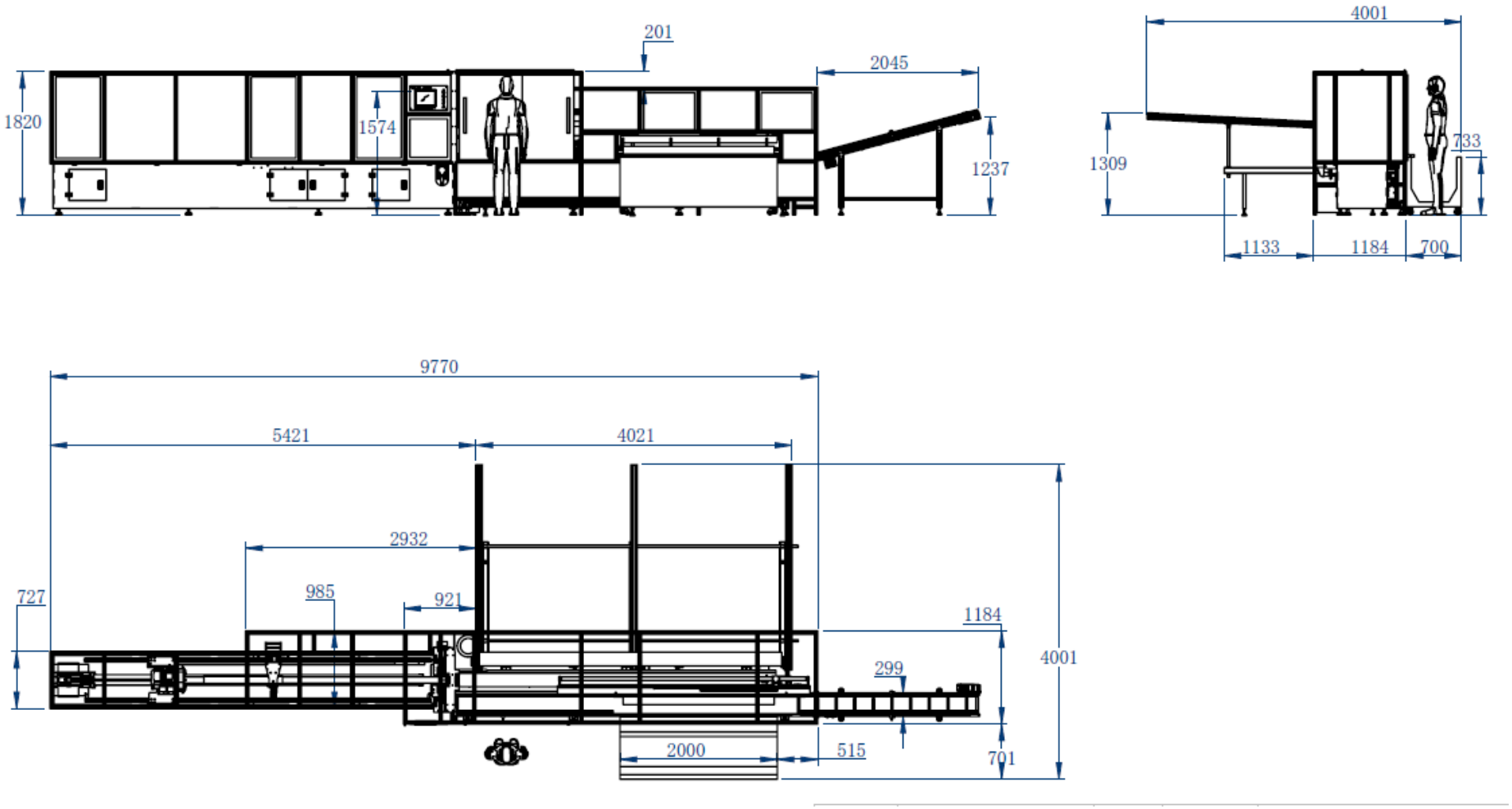
After the installation

- Removal of anti-corrosive grease and oil should be done with kerosene or benzene
- Do not use sharp tools when removing

Unit weight information

One Package total gross weight is 2 tons

Schematic and Floorplan



Unit: mm

The connection of electric power and compressed air to the machine should only be performed by an authorized technician.

The electric plan must be used.

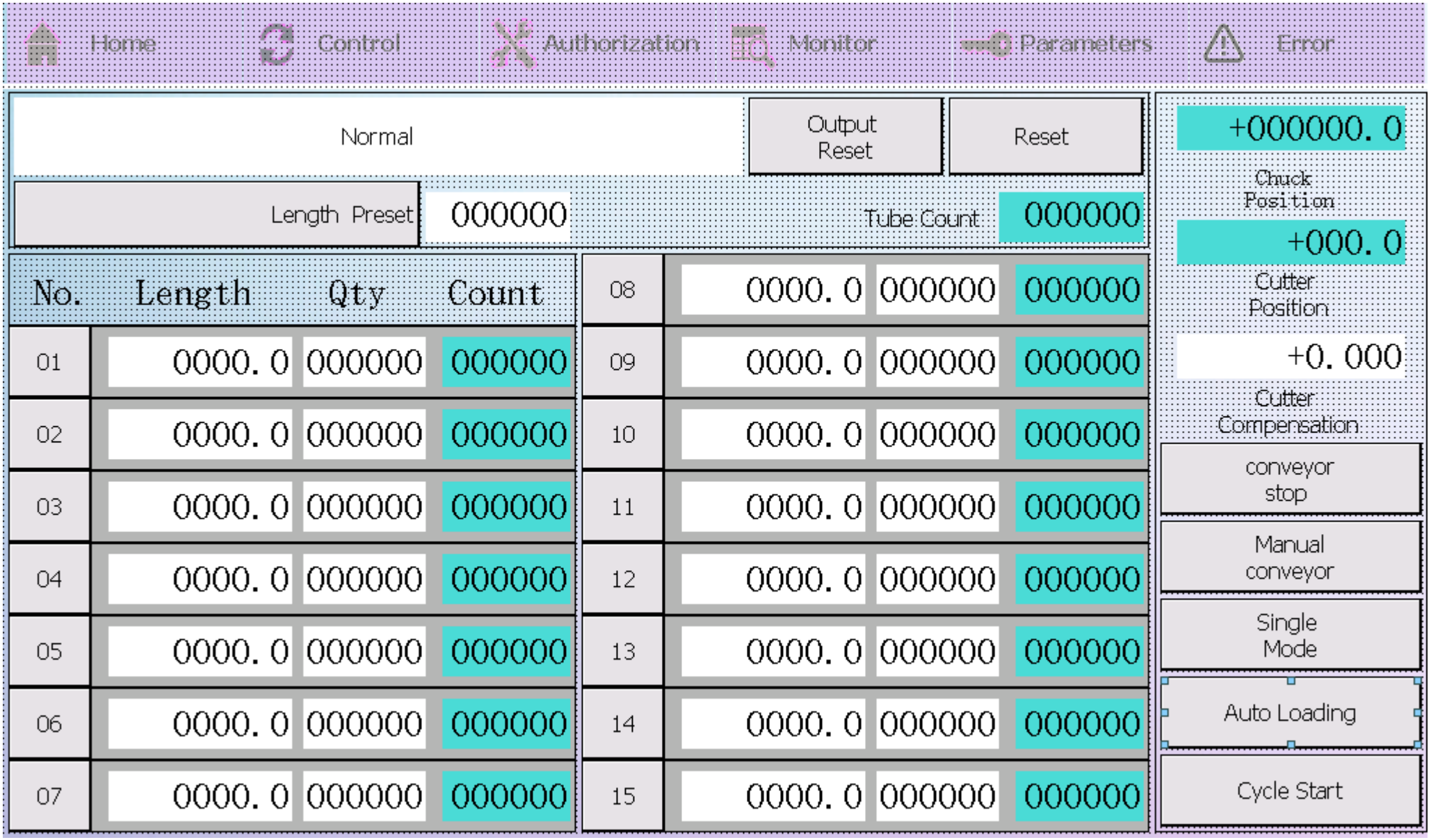
5.0 Electric control introduction

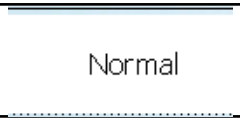
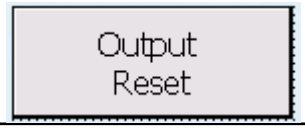
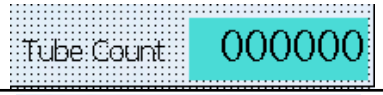
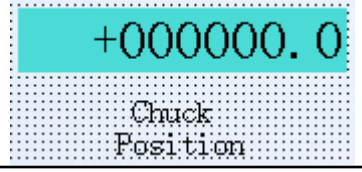
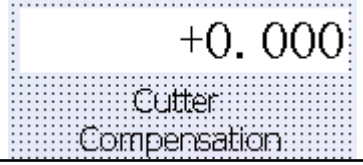
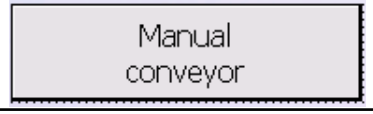
Index of Contents

Touch screen interface introduction

- **Home page**

- **Operation Screen**

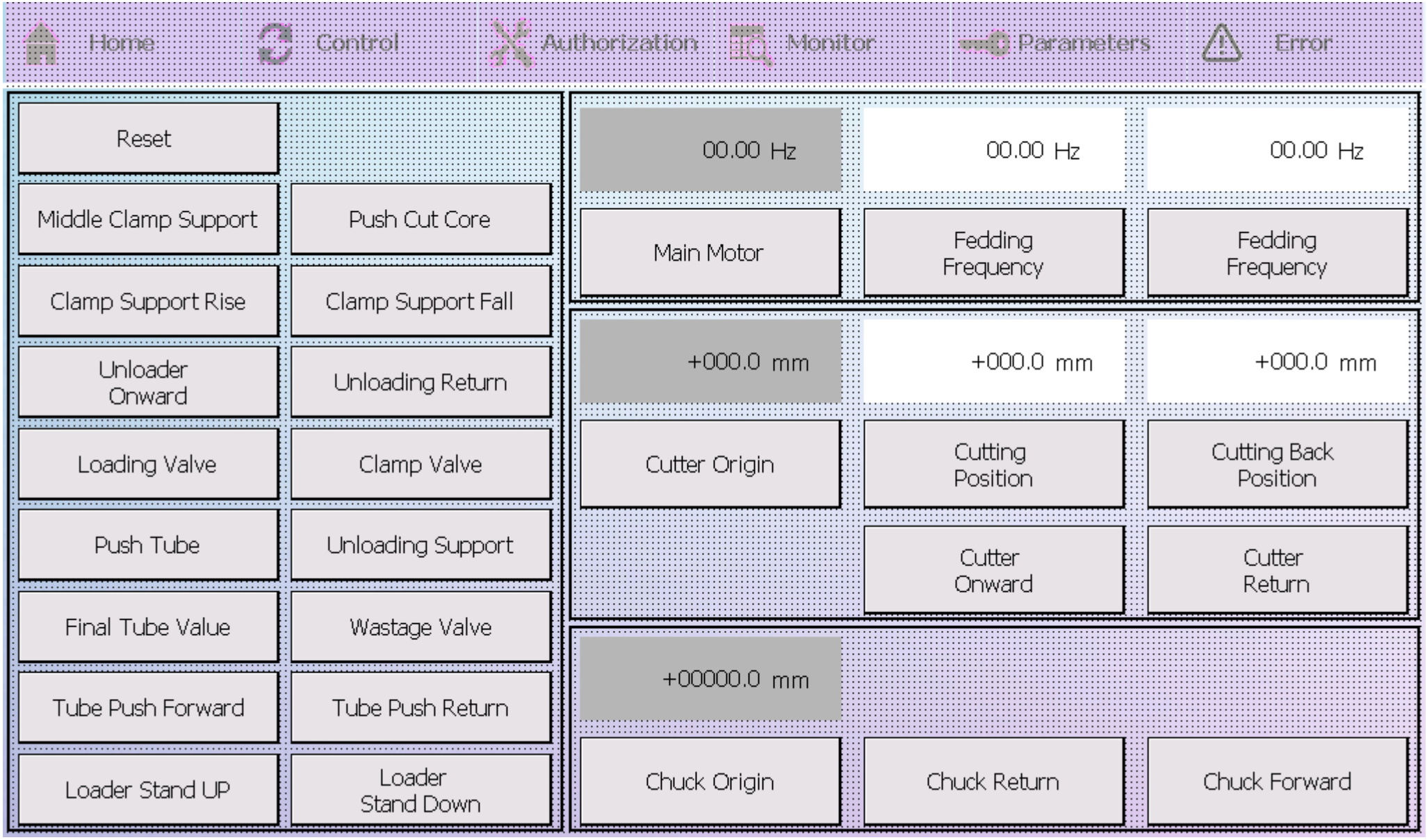


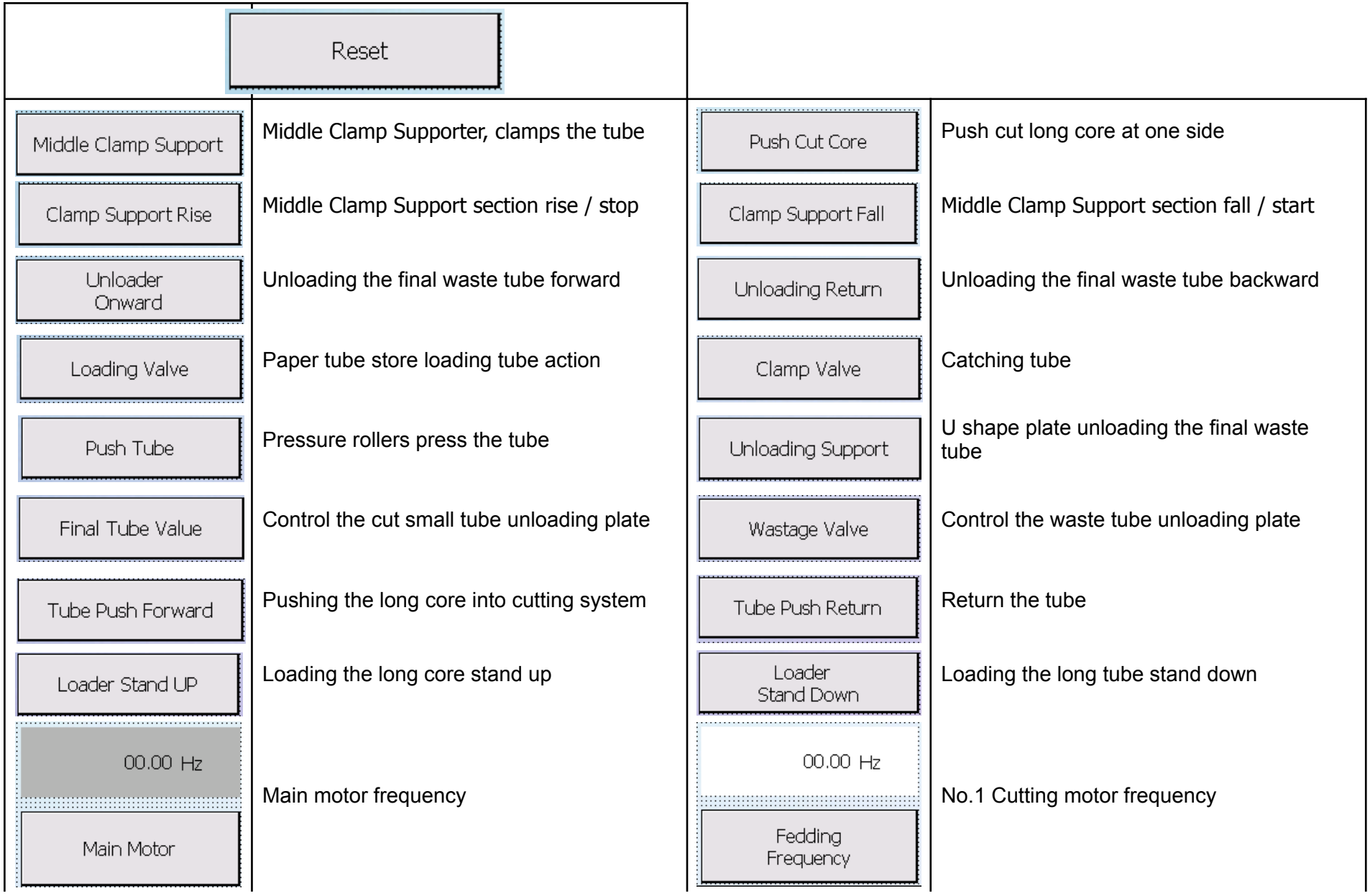
	Display machine status
	Reset ‘Final Tubes Accumulate’
	Recover all actions to original positions
	A button ‘Length Preset’ and ‘Measure Length’ Preset Manual measure length and Preset Machine automatic measure length
	Counting how many pieces paper tube cut
	The chuck position currently, it is only displayed data, no need set up
	The knife position currently, it is only displayed data, no need set up
	Fine tuning knife cutting depth
	Switch, conveyor start or conveyor stop in Manual Mode
	Automatic Conveyor mode Or Auto Conveyor mode

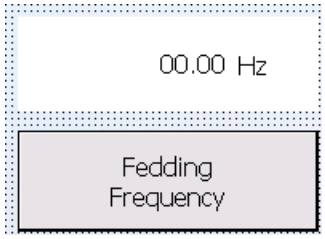
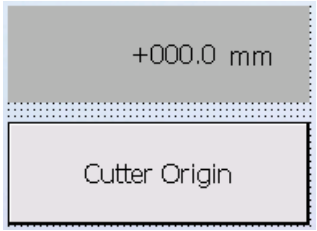
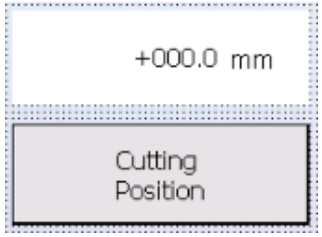
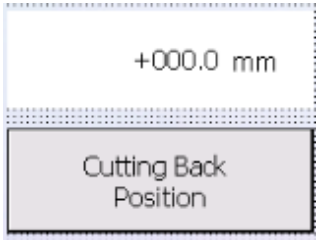
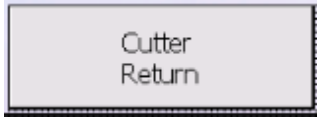
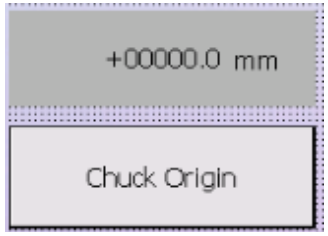
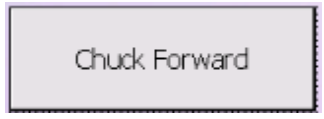
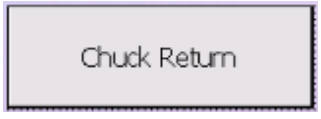
Single Mode	Single Mode: Machine always cut tube based on No. 01 Preset Length Continual Mode: Machine cut tube based on No.1 – No.15 Preset Length
Auto Loading	Automatic Loading or Manual Loading Paper tube button
Cycle Start	Cycle Start or Cycle Stop, it is use for start or stop loading parent paper core
Setting your cutting parameters	

No.	Length	Qty	Count	No.	Length	Qty	Count
01	0000. 0	000000	000000	08	0000. 0	000000	000000
02	0000. 0	000000	000000	09	0000. 0	000000	000000
03	0000. 0	000000	000000	10	0000. 0	000000	000000
04	0000. 0	000000	000000	11	0000. 0	000000	000000
05	0000. 0	000000	000000	12	0000. 0	000000	000000
06	0000. 0	000000	000000	13	0000. 0	000000	000000
07	0000. 0	000000	000000	14	0000. 0	000000	000000
				15	0000. 0	000000	000000

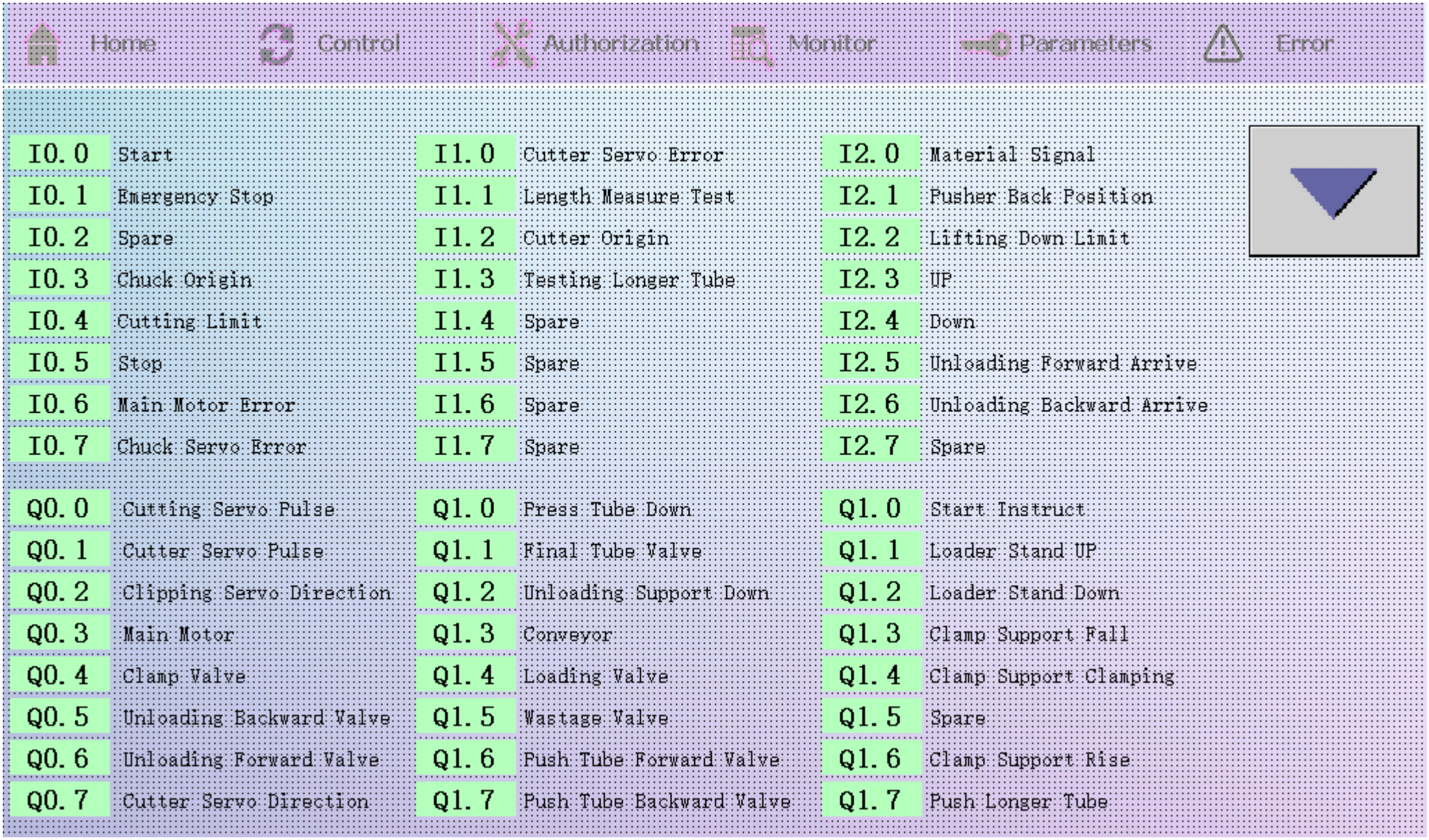
- **Manual Operate**




Reset
Middle Clamp Support
Middle Clamp Supporter, clamps the tube
Push Cut Core
Push cut long core at one side
Clamp Support Rise
Middle Clamp Support section rise / stop
Clamp Support Fall
Middle Clamp Support section fall / start
Unloader Onward
Unloading the final waste tube forward
Unloading Return
Unloading the final waste tube backward
Loading Valve
Paper tube store loading tube action
Clamp Valve
Catching tube
Push Tube
Pressure rollers press the tube
Unloading Support
U shape plate unloading the final waste tube
Final Tube Value
Control the cut small tube unloading plate
Wastage Valve
Control the waste tube unloading plate
Tube Push Forward
Pushing the long core into cutting system
Tube Push Return
Return the tube
Loader Stand UP
Loading the long core stand up
Loader Stand Down
Loading the long tube stand down
00.00 Hz
Main motor frequency
00.00 Hz
No.1 Cutting motor frequency
Main Motor
Fedding Frequency

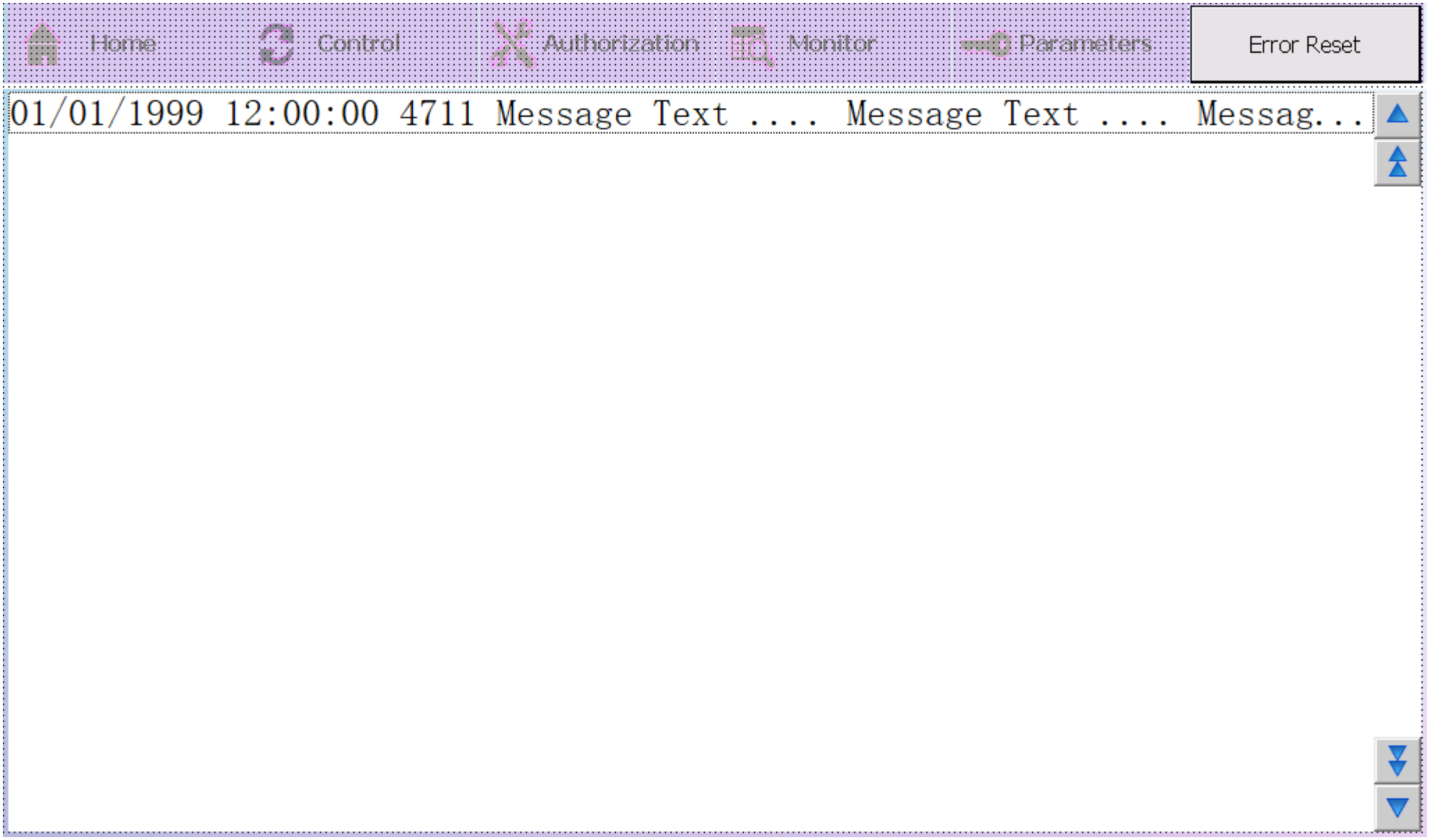
	No.2 Feeding tube motor frequency		Pressing this button the cutting system will search and return original position
	Cut off paper tube position		After cut off the knife return position when machine stops
	Knife forward cutting		Knife backward cutting
	Pressing this button the chuck system will search and return original position		
	Chuck forward		Chucking backward

- **I/O Monitor**

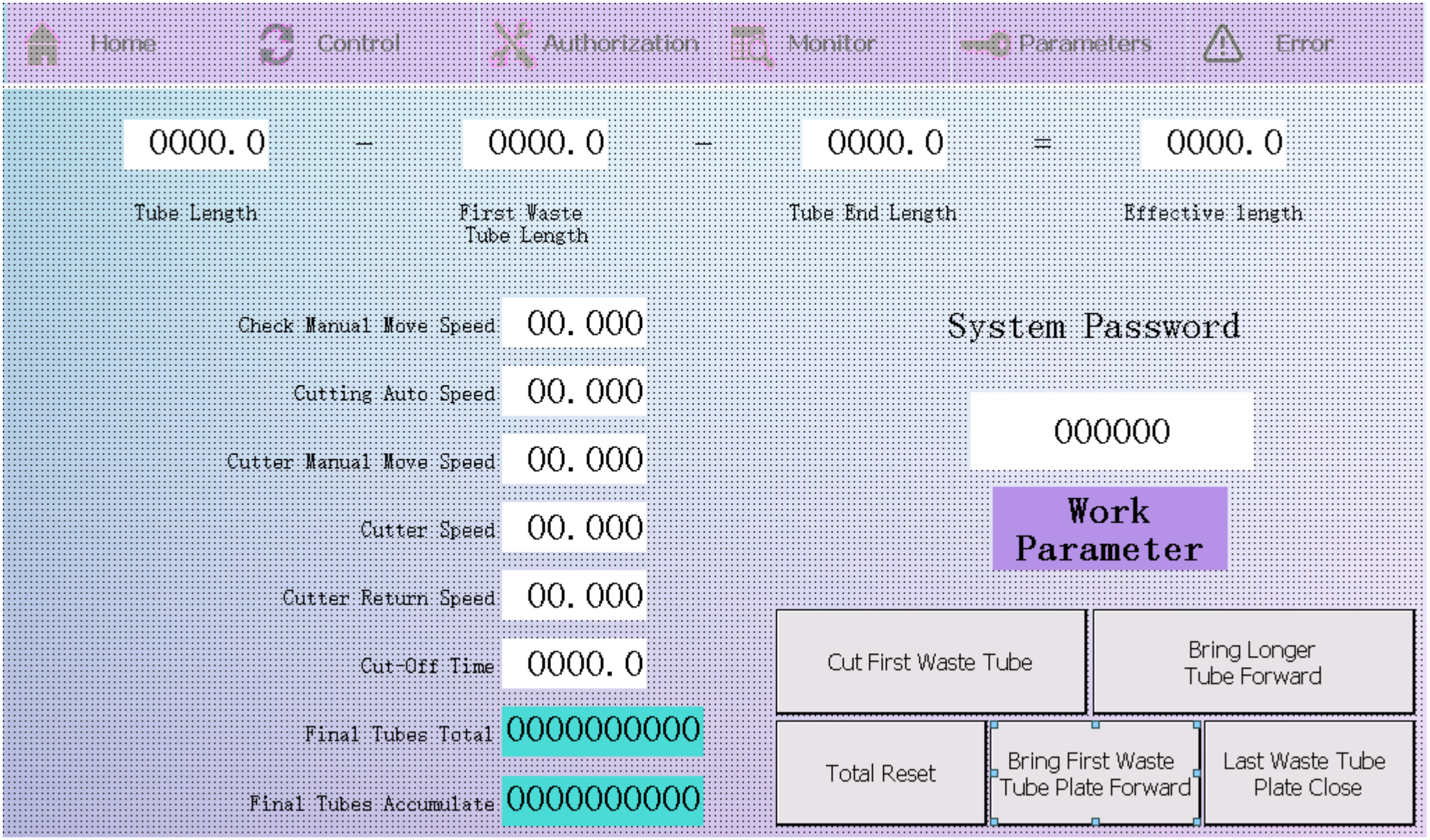

Home
Control
Authorization
Monitor
Parameters
Error
I0.0 Start
I0.1 Emergency Stop
I0.2 Spare
I0.3 Chuck Origin
I0.4 Cutting Limit
I0.5 Stop
I0.6 Main Motor Error
I0.7 Chuck Servo Error
I1.0 Cutter Servo Error
I1.1 Length Measure Test
I1.2 Cutter Origin
I1.3 Testing Longer Tube
I1.4 Spare
I1.5 Spare
I1.6 Spare
I1.7 Spare
I2.0 Material Signal
I2.1 Pusher Back Position
I2.2 Lifting Down Limit
I2.3 UP
I2.4 Down
I2.5 Unloading Forward Arrive
I2.6 Unloading Backward Arrive
I2.7 Spare
Q0.0 Cutting Servo Pulse
Q0.1 Cutter Servo Pulse
Q0.2 Clipping Servo Direction
Q0.3 Main Motor
Q0.4 Clamp Valve
Q0.5 Unloading Backward Valve
Q0.6 Unloading Forward Valve
Q0.7 Cutter Servo Direction
Q1.0 Press Tube Down
Q1.1 Final Tube Valve
Q1.2 Unloading Support Down
Q1.3 Conveyor
Q1.4 Loading Valve
Q1.5 Wastage Valve
Q1.6 Push Tube Forward Valve
Q1.7 Push Tube Backward Valve
Q1.0 Start Instruct
Q1.1 Loader Stand UP
Q1.2 Loader Stand Down
Q1.3 Clamp Support Fall
Q1.4 Clamp Support Clamping
Q1.5 Spare
Q1.6 Clamp Support Rise
Q1.7 Push Longer Tube

I3.0	No.1 Safety Door	I4.0	Clamp Support Test Up
I3.1	No.2 Safety Door	I4.1	Clamp Support Test Down
I3.2	No.3 Safety Door	I4.2	Support Clamp Position Testing
I3.3	No.4 Safety Door	I4.3	Clamp Support Loose
I3.4	No.5 Safety Door		
I3.5	No.6 Safety Door		
I3.6	Testing Lack Air Pressure		
I3.7	Spare		

- **Error Alarm**

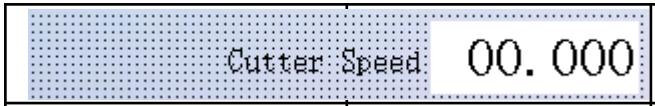
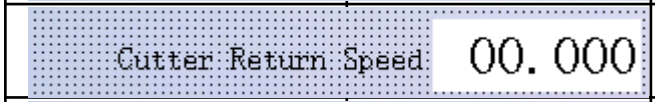
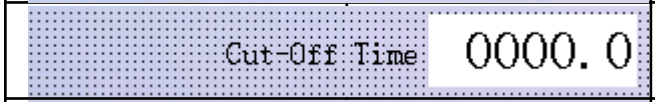
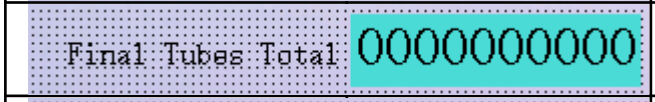
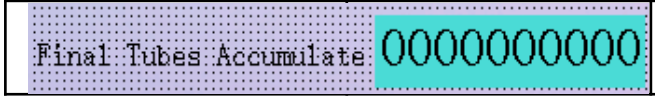

Home
Control
Authorization
Monitor
Parameters
Error Reset
01/01/1999 12:00:00 4711 Message Text .... Message Text .... Messag...

- **Working Parameter**

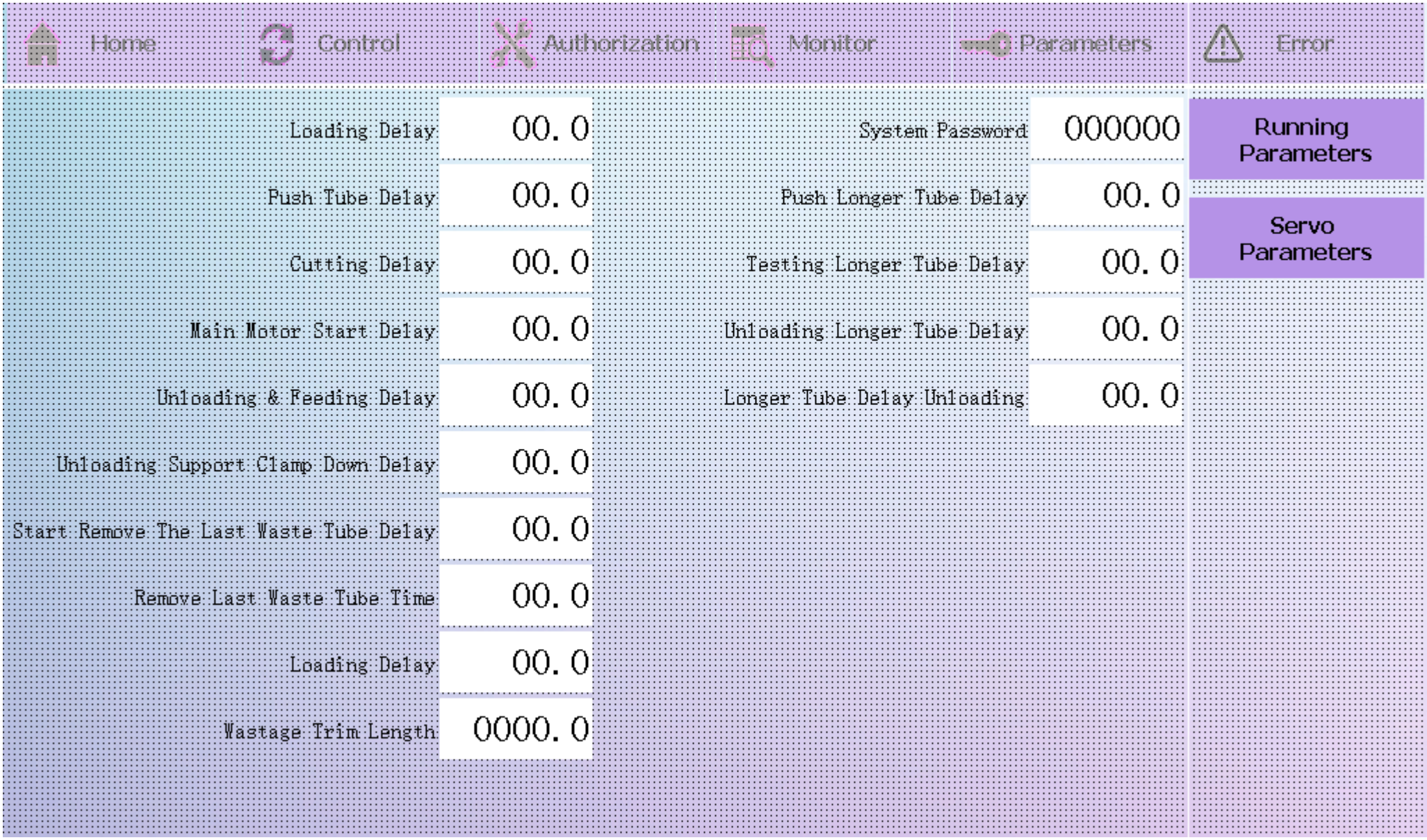


Password is 666666

0000. 0 Tube Length	Long tube total length	Cut First Waste Tube	Switch: Cut first waste tube or can be set to not cut first waste tube
0000. 0 First Waste Tube Length	The first waste tube length	Bring Longer Tube Forward	Switch: Push cut long tube at one side or can be set to not push cut long tube at one side
0000. 0 Tube End Length	The final waste tube length	Total Reset	Reset total quantity of cut paper tube
0000. 0 Effective length	Output effective tube total length	Bring First Waste Tube Plate Forward	Switch: Unloading First Waste Tube Plate
		Last Waste Tube Plate Close	Switch: Unloading Last Waste Tube Plate
Check Manual Move Speed 00. 000		Manual Mode, chuck system moving speed	
Cutting Auto Speed 00. 000		Auto Mode, chuck system moving speed	
Cutter Manual Move Speed 00. 000		Manual Mode, the knife cutting speed	

	Auto Mode, the knife cutting speed
	Auto Mode, the knife return speed
	Auto Mose, the knife cut off
	All cut tubes length
	All cut tubes quantity

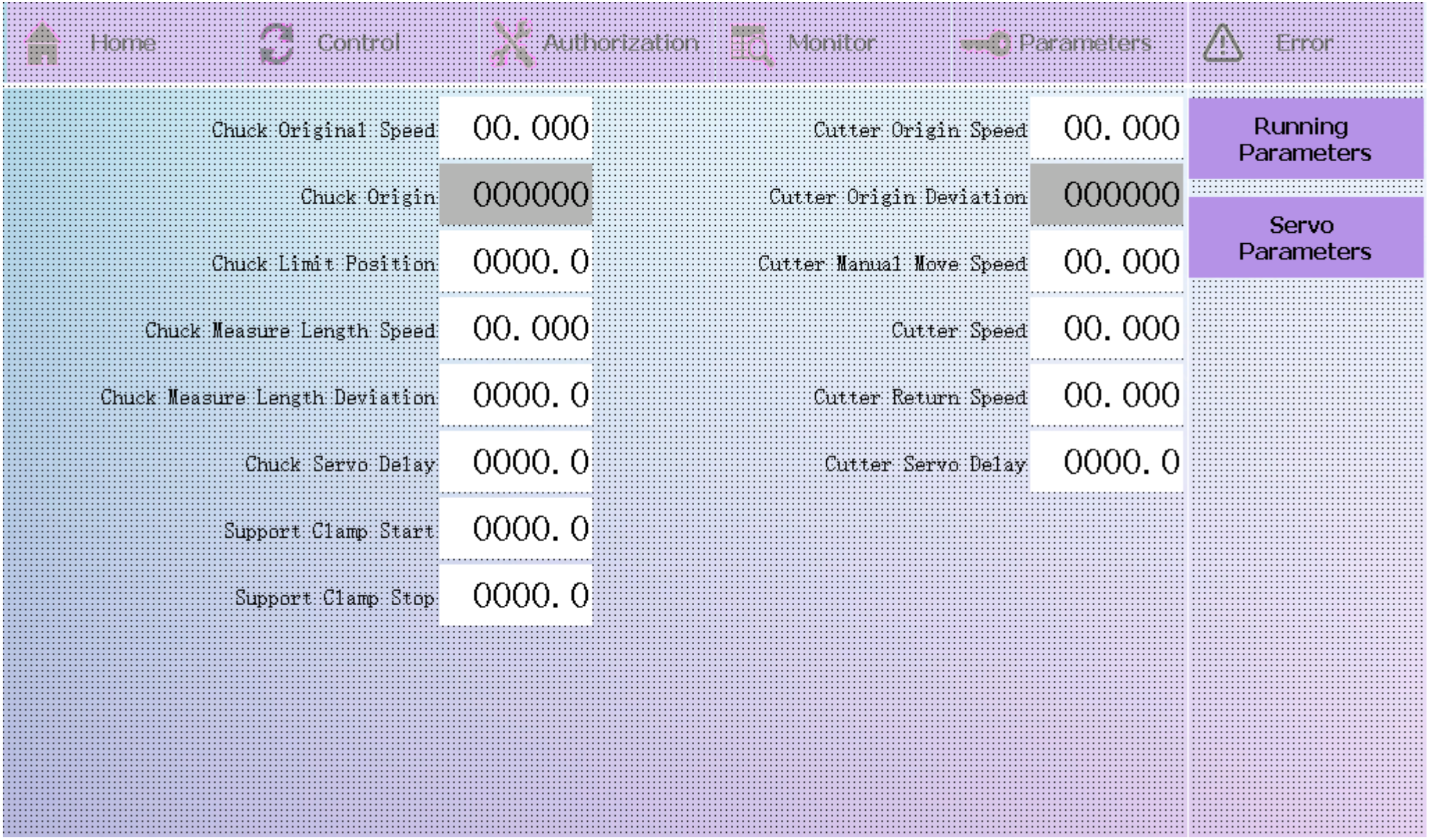
- **Running Parameters and Servo Parameters**


Home
Control
Authorization
Monitor
Parameters
Error
Loading Delay
00. 0
Push Tube Delay
00. 0
Cutting Delay
00. 0
Main Motor Start Delay
00. 0
Unloading & Feeding Delay
00. 0
Unloading Support Clamp Down Delay
00. 0
Start Remove The Last Waste Tube Delay
00. 0
Remove Last Waste Tube Time
00. 0
Loading Delay
00. 0
Wastage Trim Length
0000. 0
System Password
000000
Push Longer Tube Delay
00. 0
Testing Longer Tube Delay
00. 0
Unloading Longer Tube Delay
00. 0
Longer Tube Delay Unloading
00. 0
Running Parameters
Servo Parameters

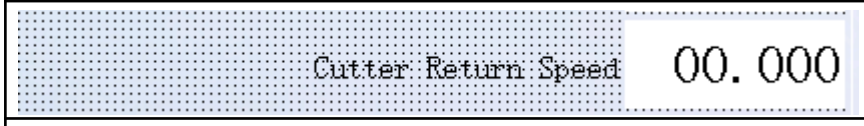
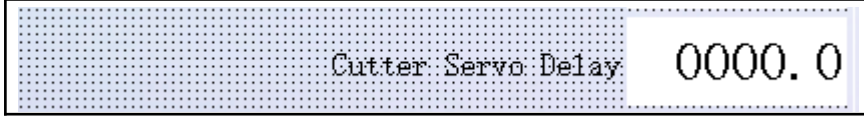
Loading Delay 00. 0	Paper tube infeed loading tube delay time
Push Tube Delay 00. 0	Pressure roller press tube time from original position to press the tube
Cutting Delay 00. 0	Blades cutting tube time delay
Main Motor Start Delay 00. 0	Start machine time delay
Unloading & Feeding Delay 00. 0	Unloading tube forward time delay
Unloading Support Clamp Down Delay 00. 0	U shape Chuck fall time delay
Start Remove The Last Waste Tube Delay 00. 0	Unloading Last waste tube plate start time delay
Remove Last Waste Tube Time 00. 0	Separated the last tube with the last waste tube time delay
Loading Delay 00. 0	Close the transfer belt time delay
Wastage Trim Length 0000. 0	Feeding the first waste tube distance
System Password 000000	666666, you can reset the password
Push Longer Tube Delay 00. 0	Blade cut long tube and pusher start working time delay

Testing Longer Tube Delay 00.0	Blade cut testing delay
Unloading Longer Tube Delay 00.0	U shape Chuck return time delay after it will push cut long tube
Longer Tube Delay Unloading 00.0	Unloading Long tube plate recover time when it unloads long tube

- **Running Parameters And Servo Parameters**



Chuck Original Speed 00.000	The chuck system finding original position speed
Chuck Origin 000000	Set up chuck system original position
Chuck Limit Position 0000.0	The chuck system limited position
Chuck Measure Length Speed 00.000	The sensor controls the chuck system measure long tube length speed
Chuck Measure Length Deviation 0000.0	Fixed data, 'Chuck measure length' tolerance
Chuck Servo Delay 0000.0	Chuck moving stop time
Support Clamp Start 0000.0	The middle support section starts working time when the clamps arrive in this position
Support Clamp Stop 0000.0	The middle support section stops working time when the clamps arrive in this position
Cutter Origin Speed 00.000	The cutter finding original position speed
Cutter Origin Deviation 000000	Set up the cutter original position gap between the real position
Cutter Manual Move Speed 00.000	Thecutter feeding speed in manual mode

	The Cutter cutting speed
	The Cutter return speed
	The Cutter moving stop speed

6.0 Maintenance Instruction

Machine appearance:

1. The machine should be wiped frequently and kept clean. It is absolutely forbidden to stick tape on the machine.
2. Please carry out anti-rust treatment on the machine every 35 days.
3. Regularly check the damage of gears, belts, and blades on the machine, and replace accessories in time.
4. If there is any damage to the drive belt of each part, please replace it immediately.
5. Check whether there is any air leakage in each air circuit. If there is any air leakage, replace the joint or sealing ring.

Machine electric elements:

1. Wipe the motor regularly, check insulation and grounding, heat exhaust fan of electrical appliances to achieve integrity, cleanliness and reliability. All kinds of wires and appliances in the electric box should pay attention to dust prevention and heat dissipation. The electric box door should be closed.
2. When it needs to be checked and repaired, it should be opened.