Desktop Round Bottle Capping Machine YTK-CM

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Brief Introduction

Thank you so much for choosing our machine, we'll continue improve our machine and provide decent after sale service as much as we can. Read this manual before you using this machine will save you a lot of time and effort, so you can quickly understand all about this machine.

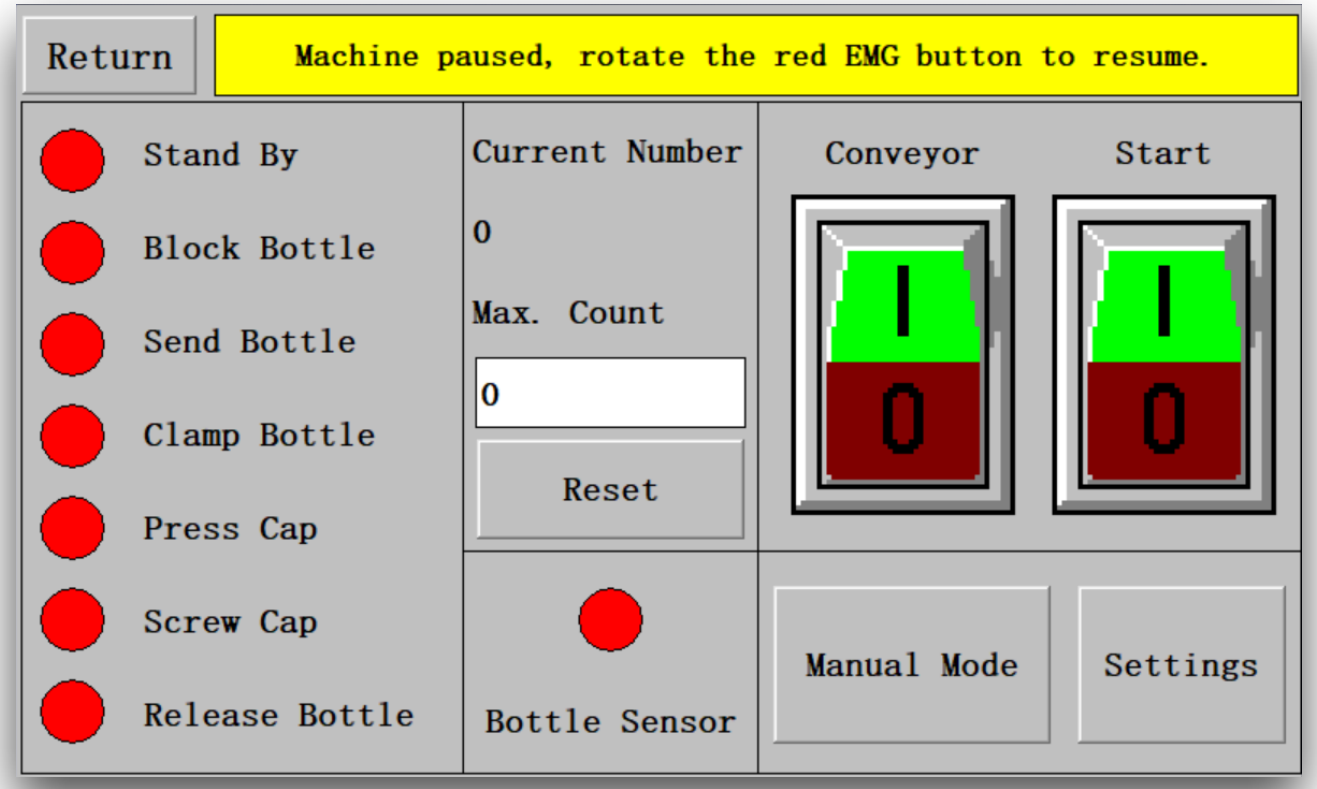
This is basically a semi-automatic capping machine which tightens or secures a cap on a round bottle. You'll find a lot similar product in the market, but ours are more compact which sits on a regular table, and we build this machine with three main purpose in mind:

1. More secure and stable machine structure.
2. More friendly touch screen interface with no machine translated nonsense.
3. More friendly electrical & air circuit for easy replace or repair.

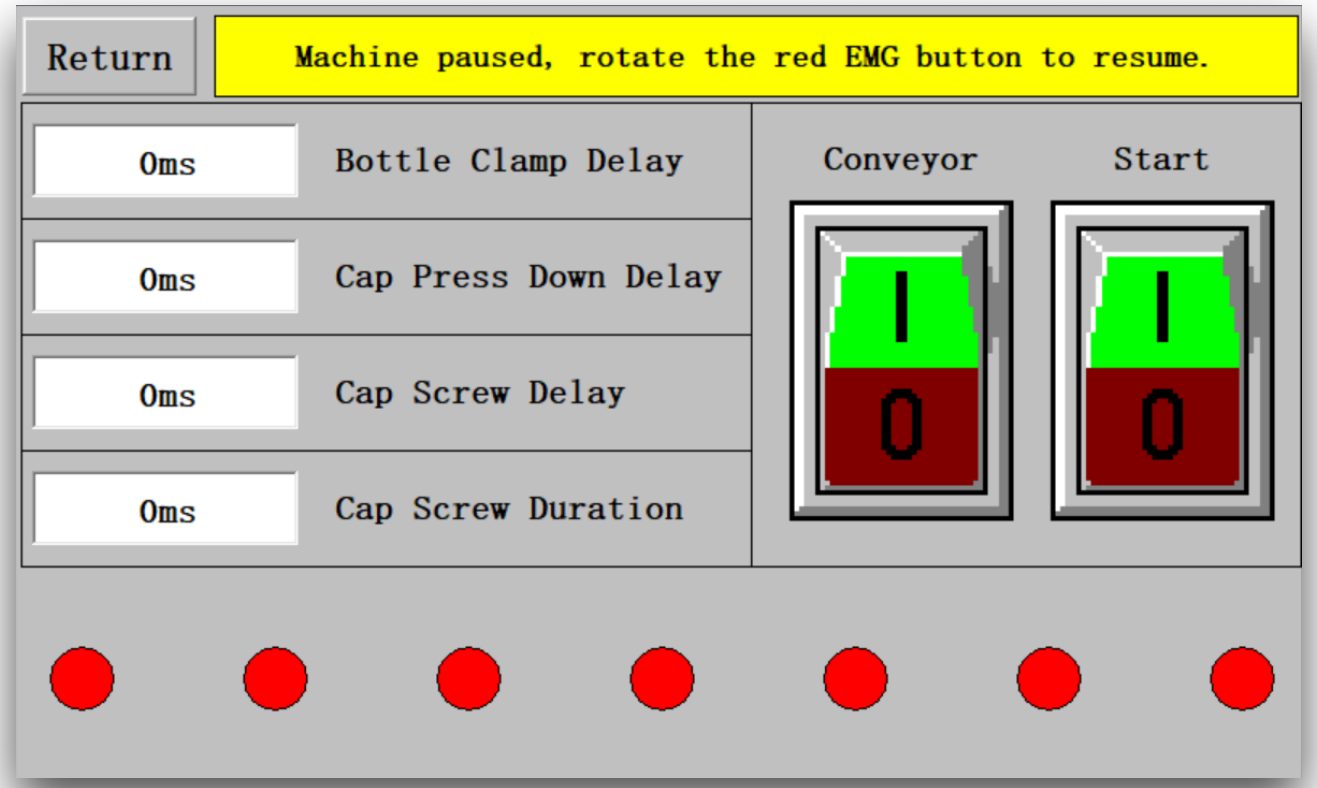
Specifications

Model Name	YTK-CM120
Voltage Supply	110V/220V 50/60Hz
Power	400w
Product Yield	20~40 Pcs/min
Machine Size	1100*550*865mm
Machine Weight	74KG
Package Size	1180*710*1000mm
Package Form	Wooden Crate with Pallet
Package Volumetric Weight	168KG
Conveyor Type	Plastic Plate Conveyor Belt
Conveyor Length	1100mm
Conveyor Speed	18m/min
Bottle Height	40~200mm
Bottle Body Diameter	20~120mm
Bottle Cap Diameter	20~60mm
Cap Turning Torque	3 N*m

Main Screen Interface



Settings Interface



Bottle Clamp Delay

When the bottle is released from the right blocker, the two clamp cylinders will push out and clamp the bottle, but it'll take a certain amount of time for the bottle to reach at the clamp cylinder's position.

For example, if you set this to 0, the clamp will immediately push out when the bottle is released, this is certainly not what we want, so we need to set a time delay for it, if we set it to 200ms, now when the bottle is released, after 200ms delay is due, then the bottle clamp will push out.

Notice that the delay here is affected by the conveyor speed, faster conveyor speed means less delay, slower conveyor speed means more delay you need.

Cap Press Down Delay

After the bottle is clamped, a vertical cylinder is pushed down to press on the cap. This sets how long it will delay to start press down on the cap.

You should always try to set this as minimal as you could to save the whole capping progress a bit more time.

Cap Screw Delay

After cap is pressed down, the cap rollers will move forward and screw the cap, this sets how long it will delay to start move forward.

Same here, set this as minimal as you could to save time.

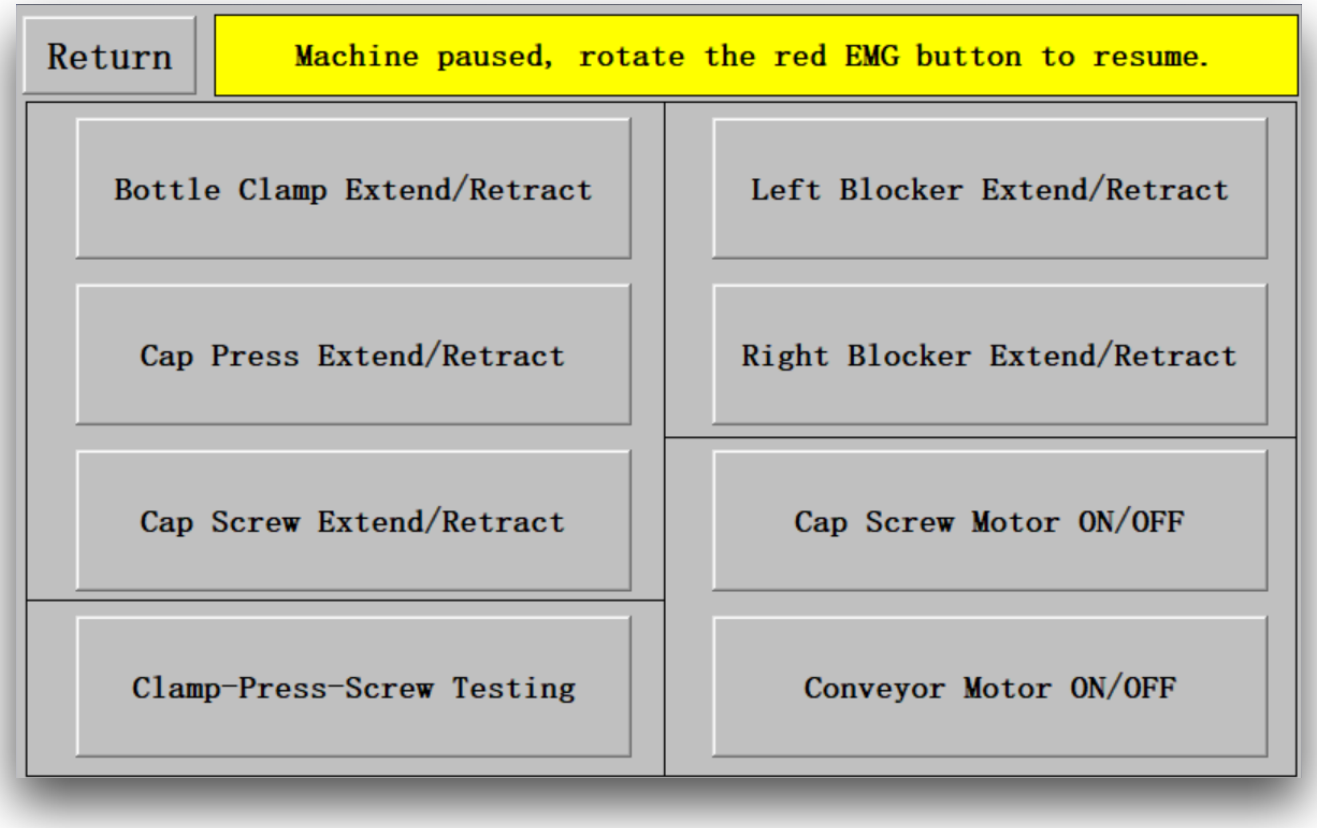
Cap Screw Duration

After the cap rollers are pushed forward, it will contact with the cap and turning the cap. This sets how long will turn the cap. If you find the cap is not fully tightened, you can set this to a high number to get a better result.

Status Indicators

The 7 indicators at the bottom is exactly the same from the main screen, but in a horizontal layout.

Manual Mode Interface



In here, you can manually control all the moving parts on the machine to test whether if it's functioning well or not.
The buttons here are separated into four different areas based on the functions.
Notice the Clamp–Press–Screw Testing button, this is a composed function for three different movement, it can be handy when you're trying to setup the machine with new a bottle of different size.

System Checking

1. Find an even, steady, stable surface and put this machine on it.
2. Plug in power and connect the inlet hose to your air compressor.
3. Flip the power switch and push the blue collar to let the air flow through.
   - Once the power switch is on, it should boot up the system and touch screen lit up.
   - Once air flow through, all the cylinders should be reset to its original position.
4. In the touch screen, go to the Manual Mode and press each button to check all the functions are behaving correctly.
5. Bottle sensor checking
   - In the Main Screen, in the middle bottom part is the bottle sensor indictor.
   - Normally, the indictor is red, if you block the sensor with your hand/bottle, the indicator should turn green. This means your bottle sensor is behaving right.
   - If it behaves oppositely, please goto the FAQ part of this manual to see how to set the sensor correctly.

Guiding Rails Setup

- Manually loose the knob to retract all the rails to clear the space above the belt.
- There’re two separated part of rails, one is the for guiding the bottles into the capping station, let’s call this part the A rails. So naturally, the B rails is the part for guiding the bottles after the capping station.
- We separate A rails into three points, the start point, the middle point, the end point. Let’s put the bottles at these three points and make sure the center of the bottle is align with the center of the belt. Now we get a straight line forming up by these three bottles which sits in the middle of the belt if you do it right.
- Then we can close up the A rails from both sides to form the space which guides the bottle into the capping station. Notice that the rails should not be too close to the bottle, otherwise the bottle doesn’t have enough room to go forward.
- We repeat the step to setup the B rails, just make sure it’s lining up with A rails.

Bottle Blocker Setup

- Two blockers works together to make sure every time it only allows one bottle to pass by.
- After we setup the rails height and gap, we can setup the blockers based on the bottle size.
- Adjust the height of both blockers cylinder to above the rail, or under the rail if your bottle is short, this can prevent the blocker being pushed out against the rail.
- Then you can safely push out both blocker cylinders in the Manual Mode and move forward both blockers to block the rail gap.
- Fix down the right blocker cylinder, then place a bottle in between both blockers, mean while, move the left blocker horizontally to fit the bottle between two blockers.
- Then we can manually test both blocker to see if it’s works well or not.

Bottle Clamp Setup

- In the Manual Mode, we push out the bottle clamp cylinders.
- Loose both clamp cylinders so it can move forward to backward freely.
- Put a bottle in between the clamps, the bottle should be centered in the middle of the belt, then we can move forward both clamp cylinders to touch the bottle.
- Tighten both clamp cylinder and with its best position and test this clamping action a few times, make sure that the bottle is not warped or tilted while it’s clamped.
- If it’s warped, then you need to back off the clamp cylinders according to the warp part.
- If it’s tilted, it means one of the clamp cylinder is being forwarded too much.

Capping Station Setup

- You should done the bottle clamp setup first. While the bottle is being clamped, we can do the following setup the capping station.
- Put the cap on the, but don't tighten the cap, then try the cap press action in the Manual Mode.
- The head of the cap press cylinder should be touching the bottle cap and slightly press down the cap. You can achieve this by adjusting the vertical height of the cylinder.
- At the tail of the cap screw cylinders, there're the nut which can be used to adjust the extend position of the cylinders. By controlling the position of the cylinder, you can create different space between the four roller wheels to fit in your bottle cap.
- Just like what we did for the bottle clamp cylinder, we do the same for the cap.
- After we tune it to a desirable position, we can test this by the cap screw function in the Manual Mode.
- What we need to achieve here is to make sure the bottle doesn't warp or tilt when we clamp and cap screw, it should be standing straight and does move at all relatively to the middle of the belt.
- Finally, we test all this by using the Clamp–Press–Screw Testing to verify everything works correctly.

FAQ

Bottle cap is not fully tightened

- The four rollers is not positioned right to get contacted with the cap.
- The cap screw duration is not long enough.
- The turning rubber is worn, replace with new one

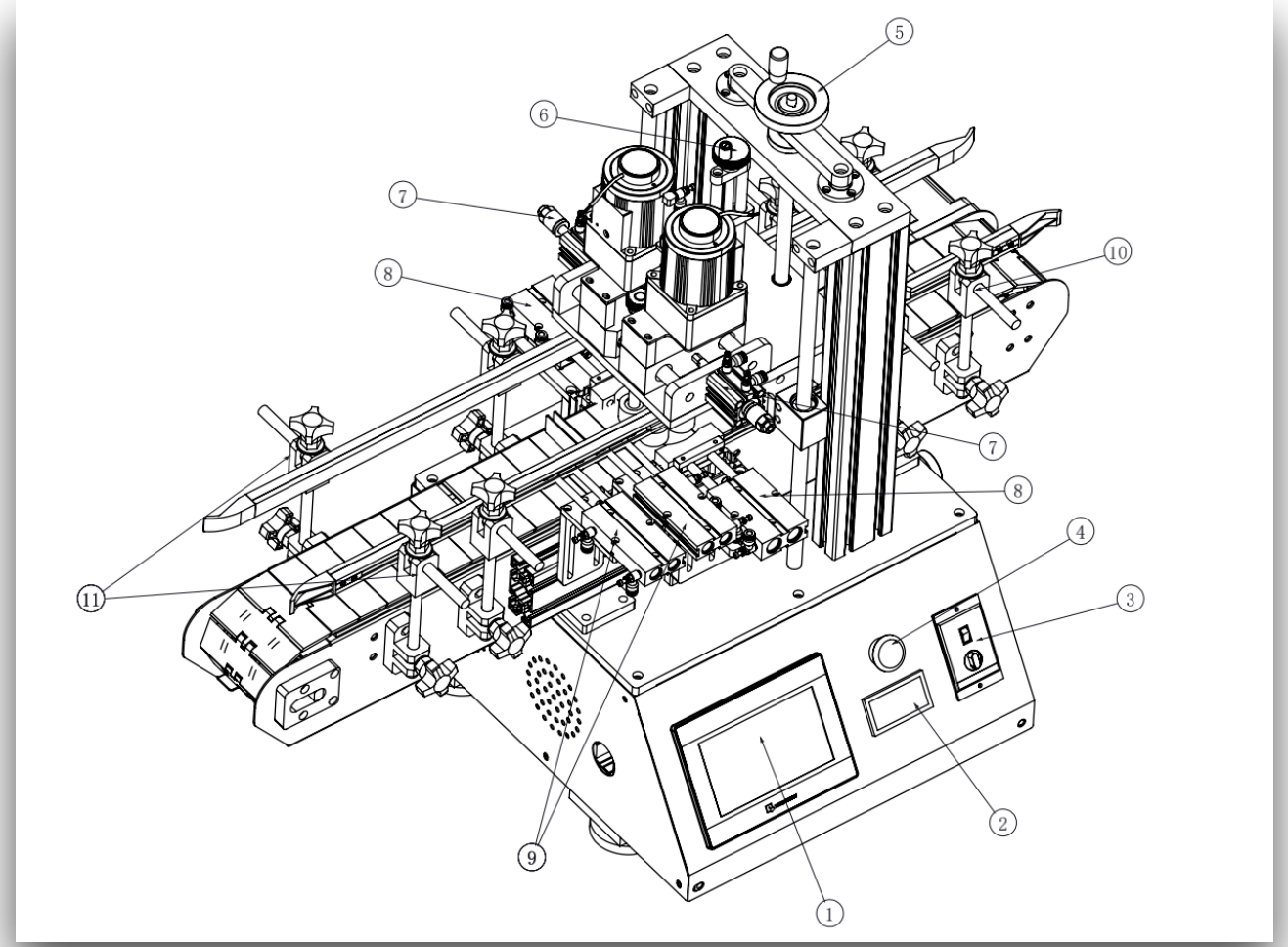
Cylinders aren't working

- Check the air inlet and make sure the blue collar switch is on.
- Check the electromagnetic valve inside the machine.
- Check to see if any specific air pipe line is twisted.

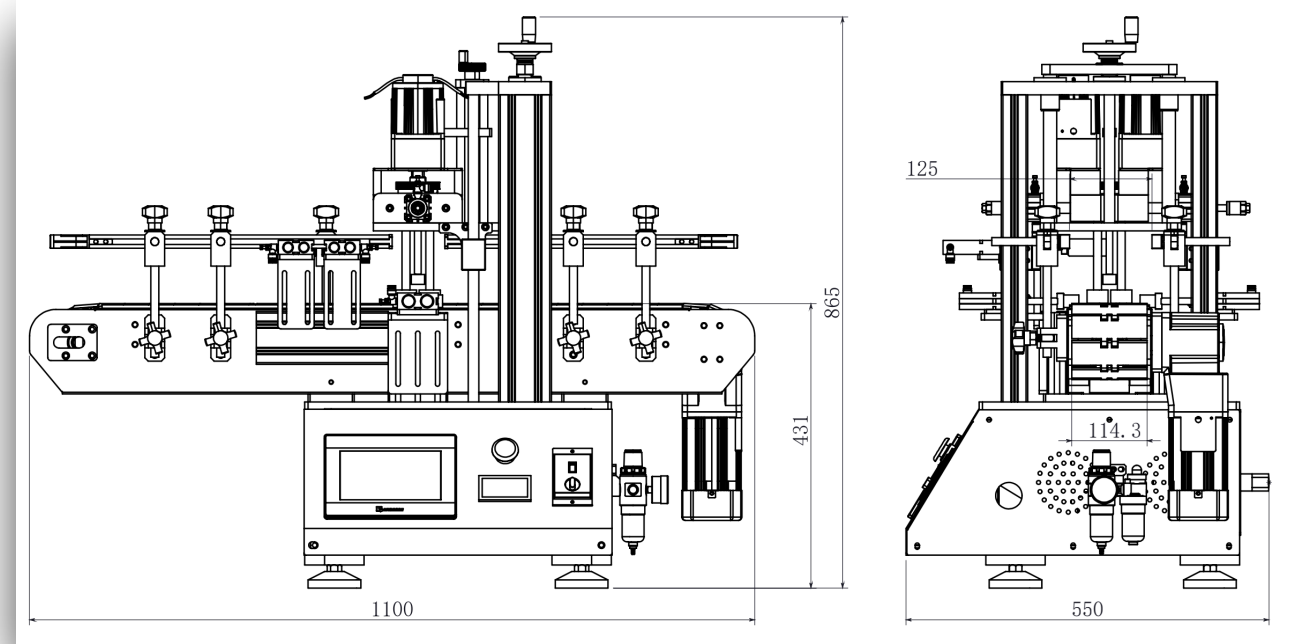
Conveyor or capping motor isn't working

- Check the relay inside the machine.
- Check the speed regulator.

Machine Structure



Machine Size



① Touch Screen
② Speed Regulator for Cap Turning Motor
③ Speed Regulator for Conveyor
④ Emergency Button
⑤ Height Adjustment for Bottle
⑥ Height Adjustment for Cap
⑦ Diameter Adjustment for Cap
⑧ Diameter Adjustment for Bottle
⑨ Left & Right Bottle Blocking Cylinders
⑩ Guiding Rails for Bottle Outlet
⑪ Guiding Rails for Bottle Inlet

* Note that the actual machine could have small insignificant small changes that are not reflected in these pictures.
* We will do our best to keep this manual up to date, but all the changes we did are meant to improve usability and user experience.
* If you do have any suggestion, please email us yasonsale@live.com