

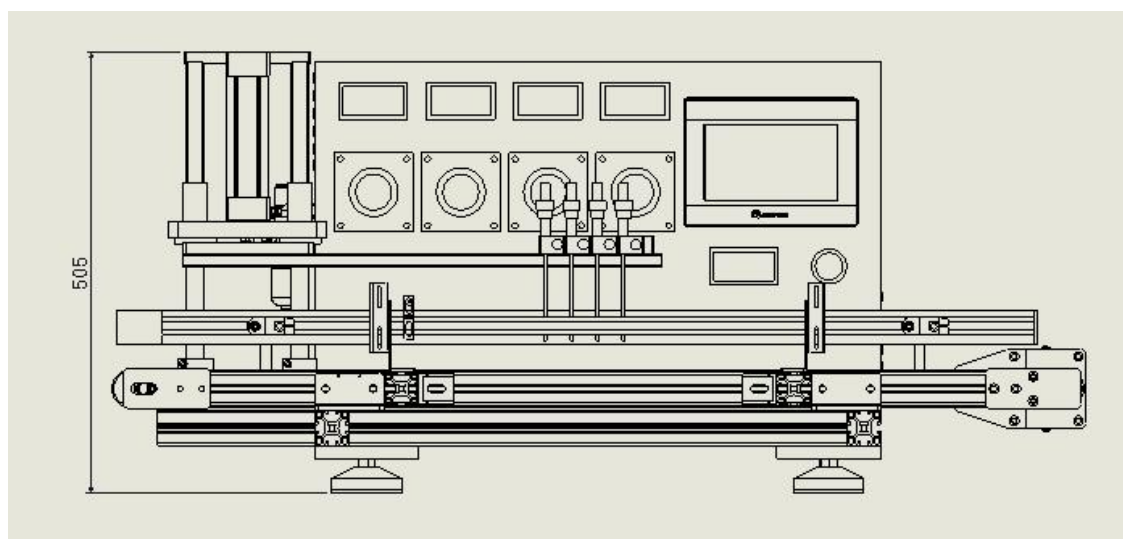
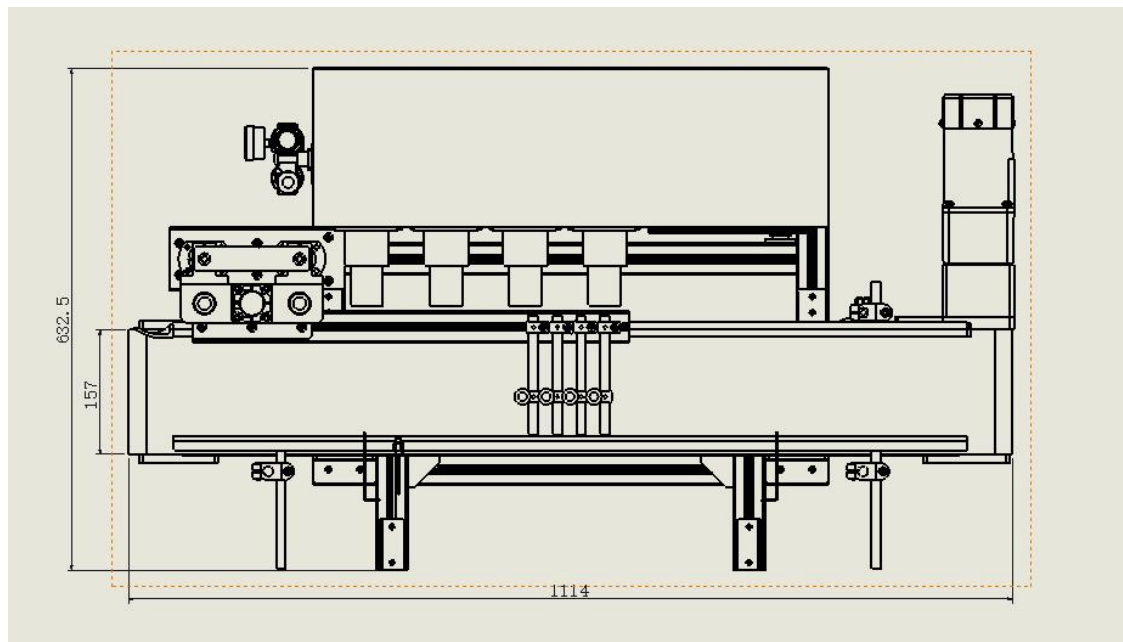
YTK-MPF4 Magnetic Pump Liquid Filling Machine

Description

This magnetic pump's gear is made of 316 stainless steel, driven by permanent magnet and micro motor.

It features compact size, precision wise and low working noise.

Suitable for Filling various liquid media, such as oil, water, syrup, cleaning agent, organic solvent.

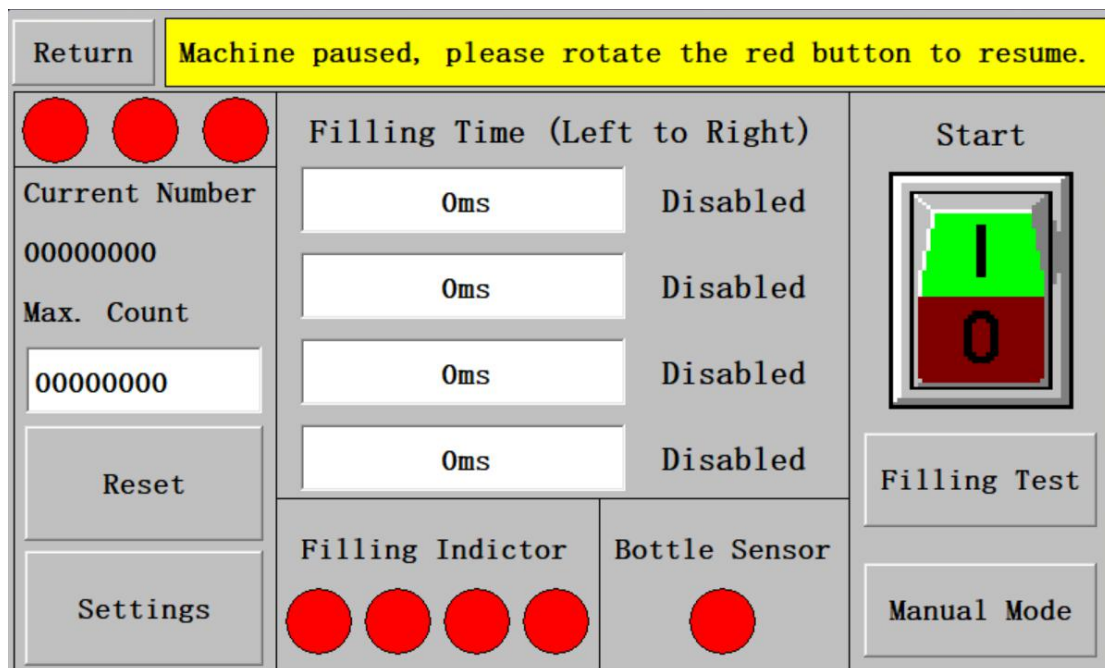


Specification

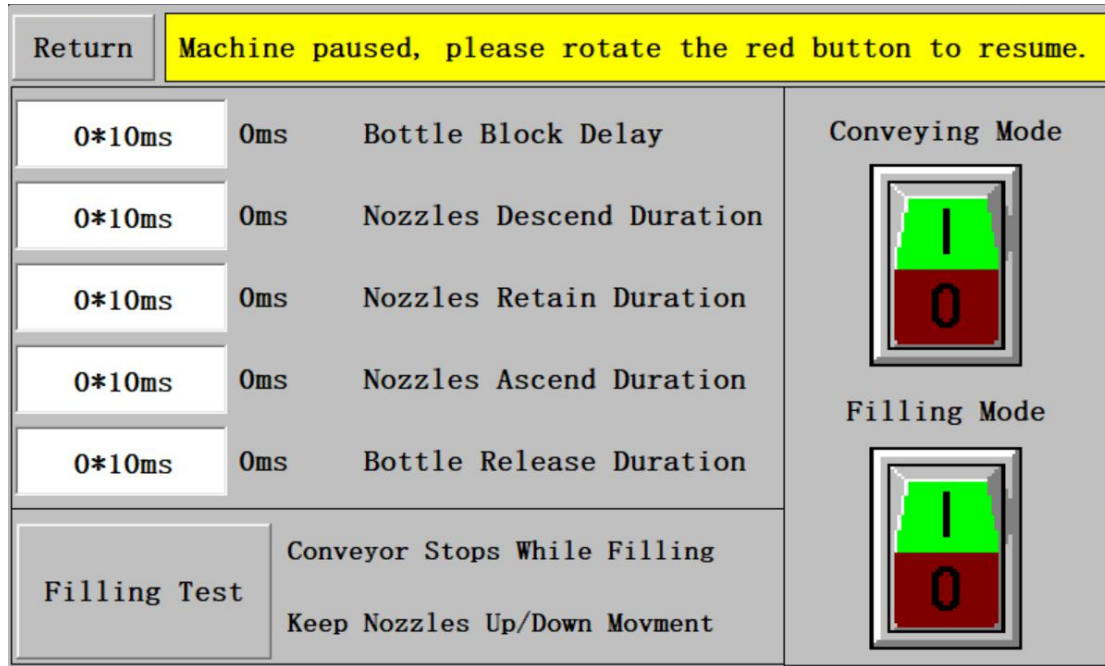
Machine Size	1112*550*690mm
Machine Weight	50kg
Package Size	1142*590*720mm
Package Volume Weight	98kg
Package Form	Wooden Case
Minimum Bottle Diameter	30mm
Maximum Bottle Diameter	125mm
Minimum Bottle Height	50mm
Maximum Bottle Height	200mm
Nozzle Inner/Outer Diameter	5/6mm

User Interface

In the Main Window, you can set the filling time for each pump without going into the settings window and the batch counter as well. The indicating circles shows the status of each components on the machine for you to easily check.



In the Setting Window, you can set the movement timing of each component, also you can change the default behavior of the filling process by switching the two working modes of conveyor and filling nozzle movement.



Filling Speed

Four individual speed controller above each pump, you can use them balance the filling speed for all the pumps. Because one pump's 100% speed may faster than other pump 100% speed, hence you need to lower the speed of this particular one to match against others.

Filling Time

Facing the machine, we number 4 pumps from left to right, you can set different filling time for each one of them, or you can even turn down any one of them.

This setting is used for further more control of the filling volume by set individual filling time at the scale of milliseconds.

Bottles Block Delay

When all 4 bottles are in position, it will start a timer of bottle block delay, when this timer is due, machine will push out the left blocker to lock down these 4 bottles inline.

Nozzles Descend Duration

When left blocker is pushed out, nozzles will start to descend, it will take some time for the nozzles to fully descend, this is much related to the air cylinder speed which you can adjusted by the valves on the cylinder.

Nozzles Retain Duration

When the descend duration is due, nozzles will start filling, also machine will start counting of this retain duration to retain the nozzles position at lowest level. You should notice that this retain duration is always shorter than your

filling time, otherwise the whole filling process is not that efficient.

Nozzles Ascend Duration

When the retain duration is due, nozzles will start to retract, set a proper time duration for this process can improve efficiency of whole filling process.

This is changed based on the retracting speed adjusted by the valves at bottom of the air cylinder.

Bottles Release Duration

When the ascend duration is due, machine will start counting and retract the right blocker to release the bottles, when this release duration is due, the right blocker will push out and left blocker will retract to let new bottles coming in.

You can need to set a proper time for all 4 filled bottles to move out based your conveyor speed.

Conveying Mode

This switch is a mode switcher for conveyor's behavior while filling.

By default the conveyor will stop while the machine is filling, if this switch is ON, the conveyor will continue moving while filling.

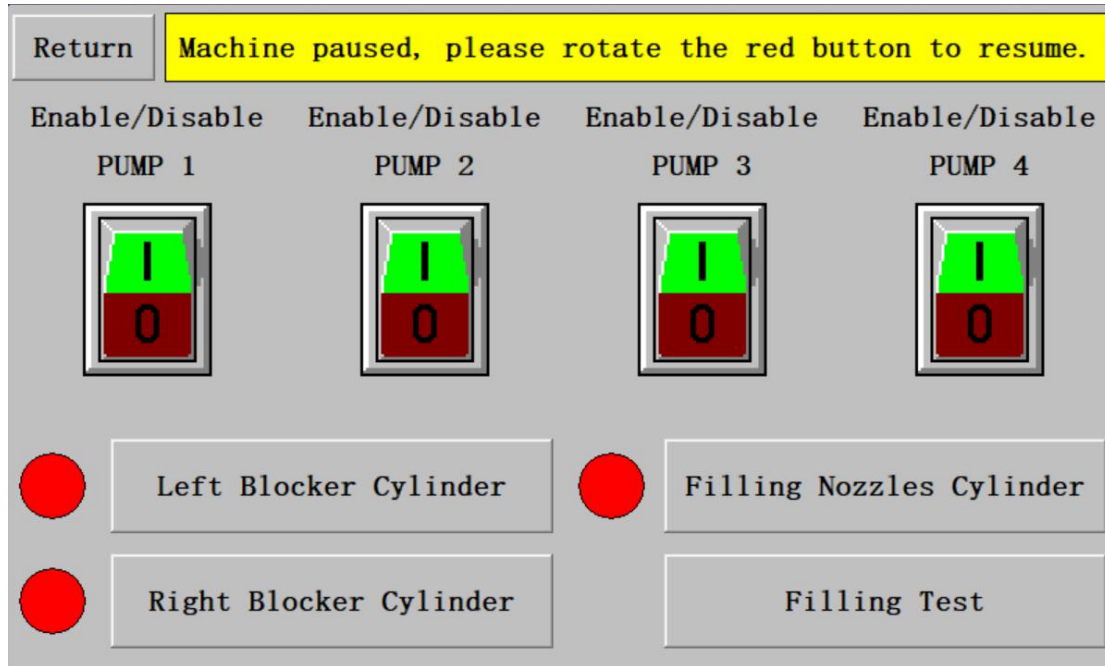
Filling Mode

This switch is a mode switcher for nozzle's behavior while filling.

By default the nozzles will descend before filling start and then ascend, if this is switch is ON, the ascend/descend action will be disabled, nozzles will filling right away when the bottles are in position.

Filling Test

This will do a trial filling, useful when you're setting up the same filling volume for all 4 bottles.



In here, you can manually control the movement of the 3 cylinders, kinda like a debug mode to find out whether if there's any malfunctions, also you can shut the pumps down individually here if you like.

Left Blocker Cylinder & Right Blocker Cylinder

This can be used to manually control the actuation of the left and right bottle blocking cylinder.

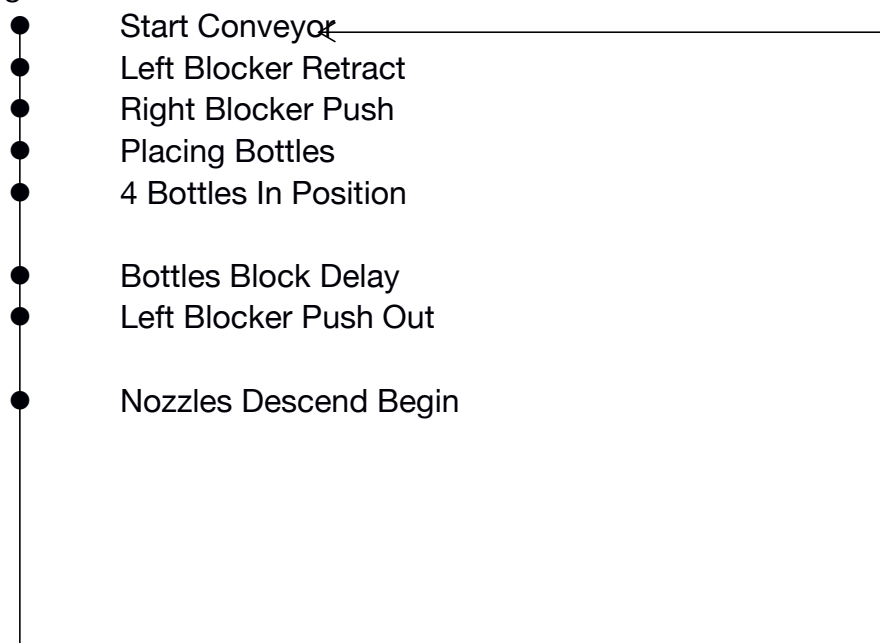
Enable/Disable Pumps

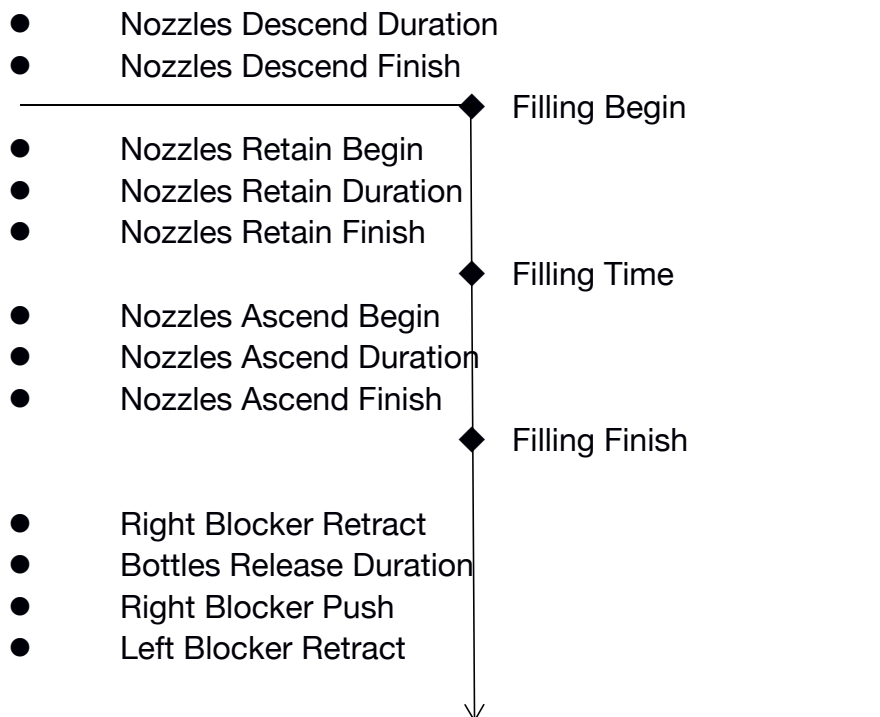
Sometimes if you want to use less than 4 pumps for any reasons, you can enable or disable any pump you need.

Filling Nozzle Cylinder

This is used to manually control the actuation of the filling nozzle platform cylinder, useful when setting up the machine with your bottle.

Working Flow Timeline Chart





FAQ

The liquid spilling out of the bottle at the beginning of filling?

Please adjust the filling speed according to the height of your bottle, if your bottle is short, you can set the filling speed at a relatively low point to reduce the initial filling force to avoid spilling, and then you gradually increase the speed to try out which speed setting is best for you bottle.

How to set same filling volume for all 4 pumps?

1. Set same filling time and filling speed for fully fill all four bottles. For example, 10000ms(10s) and all 100 (max) speed. Test filling and observe the bottle, you'll notice all 4 bottles has different liquid level.
2. Pick the pump that fills the lowest liquid level and we can use this as a guiding standard. Because this pump is weakest pump within all 4 , the only thing we need to do is lower the speed for the other 3 pumps to match this weakest pump.
3. Lower the speed setting for the other 3 pumps according to the liquid level you see and test filling again.
4. After some test fillings and speed adjustment, make sure the liquid level is the same within all 4 bottles by your naked eyes.
You stop here if you're good with your result, but here are few more steps to make sure it's even more accurate.
5. Get a electronic scale to weigh all four bottles.
6. Change the filling time, increase or decrease according to the weight you get from the scale, retry filling and you'll make all 4 bottles has almost the same weight.

How to set the blocker, nozzle position?

We've showed this in our instruction, here's a simple text version.

1. Fix a most left position you desire for the left blocker.
2. Place 4 bottles on the conveyor against the left blocker.
3. Move the sensor on the rail to aim at the first bottle.
4. Move the right blocker against the last bottle.
5. Move all the nozzles to match the mouth of your bottles.
6. Testing fill to check everything is all right.

Please scan this QR Code to see a working video of this machine

Or you can visit the link directly: <https://youtu.be/yoLSWgn-9sE>

