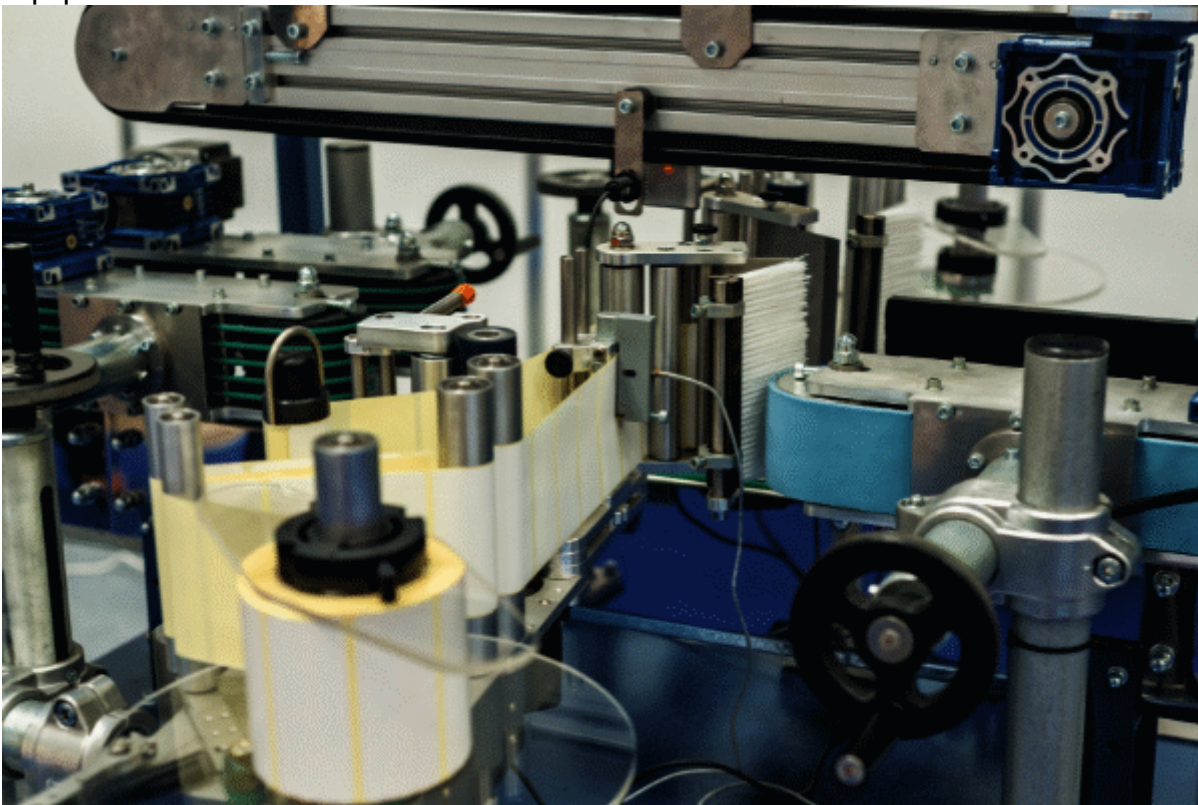


# Improve the labeling machine labeling effect improvement research

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Abstract: Automation technology gradually replaces manual operation, which can not only reduce costs but also improve efficiency, and has been widely used in various fields, of which labeling machine is one of the applications. This paper mainly analyzes the basic concept of labeling machines, explains the principle and structure of labeling machines, and then proposes ways to improve labeling machines' labeling efficiency.

Automatic intelligent labeling machine has been widely used in various enterprises and fields because of its labeling stability and high-speed labeling characteristics. In the production and operation of enterprises, the maintenance of labeling machines has become an important issue. According to the corresponding measures to continuously improve the labeling machine equipment, care and maintenance of labeling machine equipment can effectively improve the efficiency of the labeling machine and application effect. The actual production and application of the labeling machine should be optimized and solve production problems promptly to ensure the regular operation of the labeling machine equipment to ensure that it always has a good effect on the labeling machine equipment.



Automatic Labeling Machine

## labeling machine basic overview

### 1, labeling machine working device

Labeling machine including transmission system, frame, labeling target transmission equipment, labeling supply system, labeling finishing equipment, gluing equipment, inspection chain control equipment, etc., which also has a complete set of star wheel, into the bottle spiral, into the bottle out of the bottle photoelectric probe, label palm, scraper knife, label bin frame, label bin, pressure bottle head, glue pump, etc.

### 2?The working principle of labeling machine

The labeling machine is the equipment for labeling different types of bottles. Light bottle through the bottle into the spiral into the equipment, the use of glue roller for the label palm covered with a thin layer of glue, the position of the labeled bin will paste a label quality, then will be evenly coated with adhesive, the label palm rotates to the hub intersection, the hub will take away the label paper, the seat rotates to the other side, and the corner will press the bottle. The bottle will be pulled out by the pulling wheel and then transported to the rotating bottle holder for rotation. The brushes fixed at specific positions on both sides will brush the bottle sang label flat. After the bottles are labeled, they are transported to the dispenser and then continue to work on the conveyor belt, thus achieving the purpose of recycling again and again.

### **3, the labeling machine operation regulations**

First, every day after completing the labeling process, the labeling machine technology to zero, and the need to use alcohol to wipe the equipment. Second, every day after completing the process, the need to clean the rubber pump, timely removal of rubber rollers, scrapers, label palm, and warm water for cleaning. Third, to avoid the impact of a high-temperature labeling machine, the labeling machine needs to turn on the cooling fan in time after a long period of operation; until the temperature drops to a certain level, the equipment needs to be closed in time. Fourth, to do an excellent job of labeling machine routine maintenance and cleaning work, the need for idle labeling machine with a cloth cover, and when not in use unplug the power to avoid scattering dust on the labeling machine

### **4, the importance of labeling machine maintenance**

After a lot of practice found that in the premise of no accidents, an adequately maintained labeling machine can generally be used for more than ten years, and some even longer. The labeling machine can high-quality labeling and efficient operation, depending on whether the correct maintenance and maintenance. The actual work of the labeling machine, the need to comply with the basic principles of maintenance and preventive maintenance. In the labeling machine before the failure, continuously lubricate, clear, strengthen, maintenance, fastening work, not in the labeling machine after the inability to start repair and maintenance. In addition, the annual overhaul and idle labeling machine, the need for timely replacement and maintenance of equipment, so that comprehensive maintenance and inspection of labeling machine equipment. When using the labeling machine, it is necessary to check the thickness of the adhesive layer of the labeling plate promptly. If it is too thick, the label will float; it will not stick firmly if it is too thin. If the labeling problem occurs too low, it will reduce the viscosity and can not achieve the expected glue effect, labeling on the label plate; if the problem is too big, glue splashing will occur. The labeling machine generally has  $\pm 0.25\text{mm}$  of paper size error and needs attention to the texture direction. In addition, the labeling machine needs to work with a consistent size of the bottle.



Automatic intelligent labeling machine

## **Second, to improve the labeling effect of measures**

The labeling machine system needs to be improved quickly to enhance the labeling machine labeling effect effectively and minimize the trademark wrinkles or pinch printing phenomenon. First, the labeling drum on the stainless steel pads into a cow bar pad. The actual operation once used stainless steel pad bar, nylon pad bar, beef bar pad bar

Comparison.

? stainless steel matting: high wear resistance, high strength, poor resilience, 96.4 OPQS scores, there is noticeable matting wear

? nylon matting: low wear coefficient, medium strength, medium resilience, 94.5 OPQS scores, there are apparent label pinch marks, take the label to appear pinch marks

? cowrie strip: medium wear coefficient, medium strength, high resilience, 97.0 OPQS scores, good resilience, and noticeable labeling effect.

At this stage, the labeling machine has been widely used in the bull bar pad, with the following advantages. Firstly, the rebar label has good resilience and minimizes the pinching phenomenon when removing the drum label. Secondly, the cowrie strip has a good coefficient of friction and a smooth surface to take out the title smoothly. Third, the equipment wears slowly and can be used stably for a long time.

On the premise of the original three rows of trademark machine brushes, two more meetings are added to improve the overall brush tightness and ensure that the labeling can be done more smoothly.

In the back label labeling before, need to properly install the oblique brush, with about 70 ° angle. First, the labeling machine with appropriate sponge rollers achieves timely changes in the middle part of bulging, warping, and wrinkling. Second, the sponge roller is relatively soft, not only will not hurt the bottle body, and will not wear the trademark. Third, the sponge roller is appropriately set up in front of the brush to paint the back label. The sponge roller crushes the back label again to ensure that it becomes flatter.

After improving the labeling machine equipment, the OPQS score is enhanced by 2% to 3%, and the score can reach 97 to 99; the wear and tear of the label paper are reduced by 0.18 to effectively solve the problems of wrinkling, bulging, pinching, etc. to ensure that the labeling machine has a better use effect.

Third, concluding remarks.

In summary, with the continuous development of science and technology and automation technology, labeling machine equipment is increasingly widely used. For the actual use of labeling machines, you need to arrange the location of personnel to avoid broken bottles splash accidentally injured operators, and should be strictly prohibited from placing other items on the labeling machine equipment to improve the use efficiency.