

INTRODUCTION

The market is continually looking for applications that deliver high performance and high efficiency for both high and low production speeds.

Understanding these needs, our engineering department designed a new rotary roll fed labelling machine. The design promotes improved efficiency and facilitates maintenance operations.

RFL is a rotary roll fed labelling machine which applies wraparound plastic or paper labels from a roll to round or shaped glass, PET, metal or paperboard containers.

MAINTENANCE

Clean design - TMP

- Flat surfaces and holes where liquids can accumulate and generate contamination and corrosion have been eliminated.
- Only stainless steel, anticorrosion treated aluminium and plastic have been used.
- The machine has been conceived to improve the accessibility of the labelling station by the operator.

TESTING

Installation and start up is quick and easy because the machine has been completely finished and tested before shipment utilizing original bottles, labels and glue received from the final end user. This process insures a rapid ramp up of production and minimizes downtime of the line.

OPTIONALS

Different configurations & options

- Automatic splicer to work on the fly - no line downtime
- Drying Tunnel
- Thermoshrink tunnel
- Different electronic components
- Hercules, the system to load the reels in vertical
- Label control quality check
- End of reel sensor
- Pressurization system for empty bottles (labelling before filling)

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Taking care of packaging

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RFL Technology
Labelling machine Roll Fed Series

WORLDWIDE

We can provide a complete local assistance thanks to specialized staff of technicians based in strategic markets.

THE ROLL FED LABELLING STATION

The roll fed labelling station is compact and independently motorized.

FEATURES

- The labelling station support is one monolithic aluminium casting that makes it light and easy to drive.
- The feed roller has its own servo motor which controls the feeding speed of the film in correlation with the detection of the eye mark on the label.
- The cutting drum is powered by a servo motor positioned above it and is synchronized with the main machine drive. The cutting drum drives the vacuum drum through helicoidal gears. This creates a "scissor" effect which guarantees a precise cut and a long life of the blade.
- The third servomotor is mounted above of the glue roller, synchronized with the main machine servo motor. The glue roller is fixed on a horizontal slide and moves forward and backward (no rotation) in order to engage and disengage (no bottle - no label). The glue roller can be easily and quickly disassembled (15 min estimated) so cleaning and maintenance operations are kept to a minimum. The glue tank has been designed with a new filtering system. Any film piece that should stay on the glue roller is prevented from reaching the tank. The same filtering system can be cleaned by the operator very easily without dismounting anything and waiting for the glue system to cool.
- The reel stand can hold two rolls. Each roll support is controlled by a **SERVO MOTOR**. This enables the system to handle a wide range of material types and qualities in addition to a wide range of label dimensions.



HERCULES - THE REEL SUPPORT

It is a system to load the reels without necessity of lifting them up and over the label reel stand (as with traditional systems).

The arms of the reels support can be turned 90° and allow it to be loaded vertically. The arms return then easily in the horizontal position.

The system allows quick and easier change over of the reel.



MOTORIZED INFEEED SCREW

The machine in-feed screw is independently driven by a servo motor synchronized with the main machine servo motor. In this way it is possible to regulate the distance from the in-feed screw to the counter-guide according to the diameter of the bottle insuring the bottle is positioned in the centre of the conveyor belt



MAIN CAROUSEL

- Electronic height adjustment.
- Cam controlled container head gripper jacks with spring compensation.
- Self-centring container anti friction quick change platforms to allow perfect positioning without slippage of the bottle.
- Clean design type container carousel for easy debris removal.
- Motorized toothed belt platforms rotation (to handle round containers), mechanical cam driven platforms rotation (to handle shaped containers), electronic cam (one motor for each platform) driven platform rotation (to handle special shaped containers).



FIGURES & FACTS



HOW DOES IT WORK?

The servomotor on the labelling station delivers precise tension of the film, which is unwound, cut and transferred to the container utilizing vacuum technology. The hot melt glue is spread on the leading and trailing edge of the label by means of a stainless steel glue roller. Its design promotes minimum consumption of glue.

The height regulation of the machine head is automatic. It is an electrical adjustment that establishes the height by the settings that are stored in the container recipe data.

OUTPUT RANGE

- Production speed from 10.000 bph to 72.000 bph with one single labelling aggregate.
- Empty bottle labelling (before filling) through pressurization.
- Shaped bottle labelling.
- Wide range of bottle diameters: from 0,2 l. to 3,5 l. bottles
- Minimum label height: 30mm
- Maximum label height: 180mm

LEGEND

- 1 Motorized infeed screw
- 2 Infeed starwheel
- 3 Main carousel
- 4 Transfer vacuum drum
- 5 Cutting drum
- 6 Glue roller
- 7 Reel support
- 8 Motorized toothed belt
- 9 Outfeed starwheel

MACHINE DRIVE

The platforms can be driven by mechanic cam, electronic cam (servomotors) or motorized toothed belt platforms

- Servo motor main drive inverter controlled to follow container in-feed and discharge flow.
- No gear system transmission between main drive and labelling station drive.
- Gears and belt or chain transmissions have been eliminated to reduce wear parts and maintenance costs (TPM).
- Centralized grease lubrication.
- Independent servo motor controlled feed screw.
- Star-wheel safety: electro-mechanical clutch transmission system to shut the machine down in case of container jamming.

The standard machine is equipped with:

- Motorized toothed belt platform.
- Quick release platforms
- Vertical doors.

CHANGE OVER

After accurate and detailed analysis of every bottle and label, our Technical Department designs specific change parts dedicated to each dressing. Change over operations are easy and very fast.

Specific parameters for each label and bottle are stored in the central control unit. Operator selects bottle and label configuration on control panel. Head grippers height and labelling aggregate position are automatically adjusted (option).

Optionals:

- Universal starwheels
- Automatic reel splicing
- Automatic regulation of the labelling station position
- Hercules
- Label reel cart

