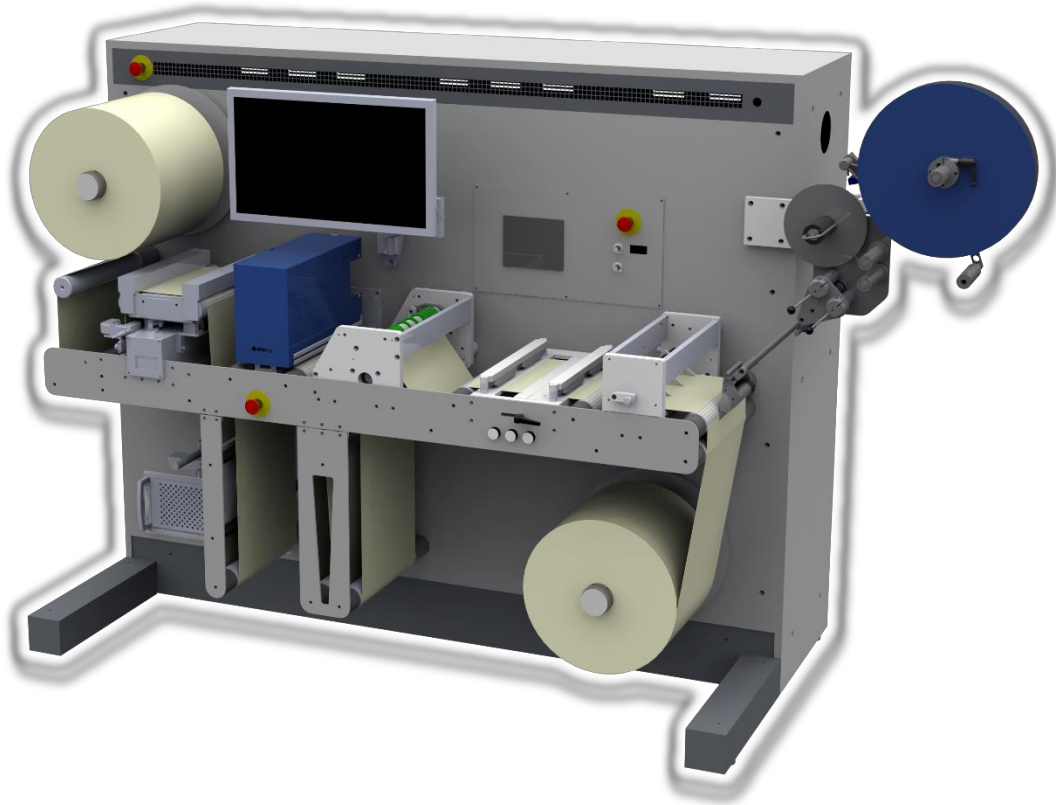


IR330 Inspection Rewinder with Label Dispenser & Inkjet

IR330 Operation Manual



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IR330 Inspection Rewinder with Label Dispenser & Inkjet

Original
EU Declaration of Conformity
2006/42/EC Annex II A

We Manufacturer:

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herewith declare that the product

Equipment:	IR330
Model number:	LA330LP2I
Serial number / production year:	117188 / 2017

is in compliance with the relevant requirements in the following directives:

Machinery Directive 2006/42/EC.
EMC Directive 2014/30/EU.
RoHS2 DIRECTIVE 2011/65/EU.

Harmonized specifications applied:

EN 60204-1 Safety of machinery. Electrical equipment of machinery.
EN 13849 Safety of machinery -- Safety-related parts of control systems
EN 12100 Safety of machinery

Person authorized to compile and hold the technical documentation: *Bjarne Nielsen*

Managing Director

Uffe Nielsen (Mr.)
Grafisk Maskinfabrik A/S



2017-03-02 Birkerød

Date

Uffe Nielsen

Signature

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IR330 Inspection Rewinder with Label Dispenser & Inkjet

1. Introduction

The IR330 inspection rewriter with label dispenser and inkjet printer is an easy to use machine for inspecting and creating simple multilayer labels. IR330 features an unwinder and rewriter, web guide, camera inspection with automatic fault placement, inkjet for backside printing of e.g. serial numbers, label dispenser, and is designed to handle up to 330 mm web width and 400 mm diameter. It is an ideal machine for pharmaceutical and other applications with high quality standards and requirements.

2. Unpacking

Prior to shipment, the machine has been securely packed to withstand rough handling during transportation. Should you nevertheless discover any transportation damages on arrival, please accept the arrival only subject to transport damages, immediately make a claim to the transportation company and contact GM.



Never lift the machine through the rollers, as this may damage the machine.

RUST PREVENTION:

For transportation purposes, the machine has been protected with a rust prevention coating which can be easily removed by kerosene, turpentine or similar.

3. Safety Instructions

This part describes the safety guidelines that must be adhered to under all circumstances when installing, commissioning, operating and maintaining this machine. In this manual and on the machine, the following symbols (if placed on any part of the machine) will draw your attention to relevant information on hazards, risks and safety:



Indicates a potentially dangerous situation. Non-observance of the warning instructions may lead to slight or medium personal injury or damage to machine.



Indicates a potentially dangerous situation. Removal of the cover behind this symbol may lead to direct or in-direct exposure to high-voltage parts. This may lead to fatal personal injury.



Indicates a potentially dangerous situation. Possible trapping of hand between rotating rollers. Removal of the cover behind this symbol may lead to slight or medium personal injury.



Indicates a potentially dangerous situation. Possible trapping of hand between rotating rollers with sharp points (gears or other blunt parts). Removal of the cover behind this symbol may lead to slight or medium personal injury.



Indicates general instructions, useful tips for application and recommendations for working that do not have any influence on the safety and health of the personnel.

4. General

IR330 is a unique machine that guarantees optimal performance and long service life. It should be installed and operated as specified by GM. Operating the machine is easy and most parameters are set through a touch screen on the machine. Speed adjustments, nip roller size and other features are all monitored and accessed in user-friendly graphical menus.

5. Safety Instructions



Caution: *To operate IR330, the operator must understand all the functions of the control features for safe and proper use of the machine. The operator of the machine must have the necessary training required to operate the machine.*



Caution: *The IR330 should only be operated within its scope.*



Caution: *Using materials not within the scope of the machine could cause risk of damaging the machine.*



Caution: *Keep fingers, hair and loose jewels away from the moving objects.*



Caution: *Place and remove roll in the machine's spindles in a proper way.
Wear protective shoes when working with heavy rolls.*



Caution: *Rear side covers are only to be opened by trained electrician.*

The equipment's rear side cover has been mounted in such a way as to prevent the operator from opening the cabinet. This area protected by the back cover does not require operator access for routine cleaning or machine operation. It can only be removed by a qualified service engineer or technician in case of complete overhaul, major repairs or dismantling. Refer servicing to qualified personnel.

6. Misuse of IR330

The following actions are considered misuse of IR330, as such, must be avoided:

- Using materials not specified by the manufacturer as suitable for this machine.
- Usage of consumables or spare parts other than those specified.
- Using the machine outside the scope of unwinding and rewinding with an integrated press.

6.1. General Electrical Safety Remarks



Caution: *To prevent fire or electrical shock hazard, do not expose this product to rain or moisture.*



Caution: *The machine can generate static electricity depending on the environment and on the material (media) running on the machine. The operator must be careful when touching the rolls and be prepared for a discharge without being shocked. Persons sensitive to static electricity should not operate or come near the machine.*



Caution: *When the machine is running:
Never try to solve a problem by putting your fingers or a tool into a running machine.*

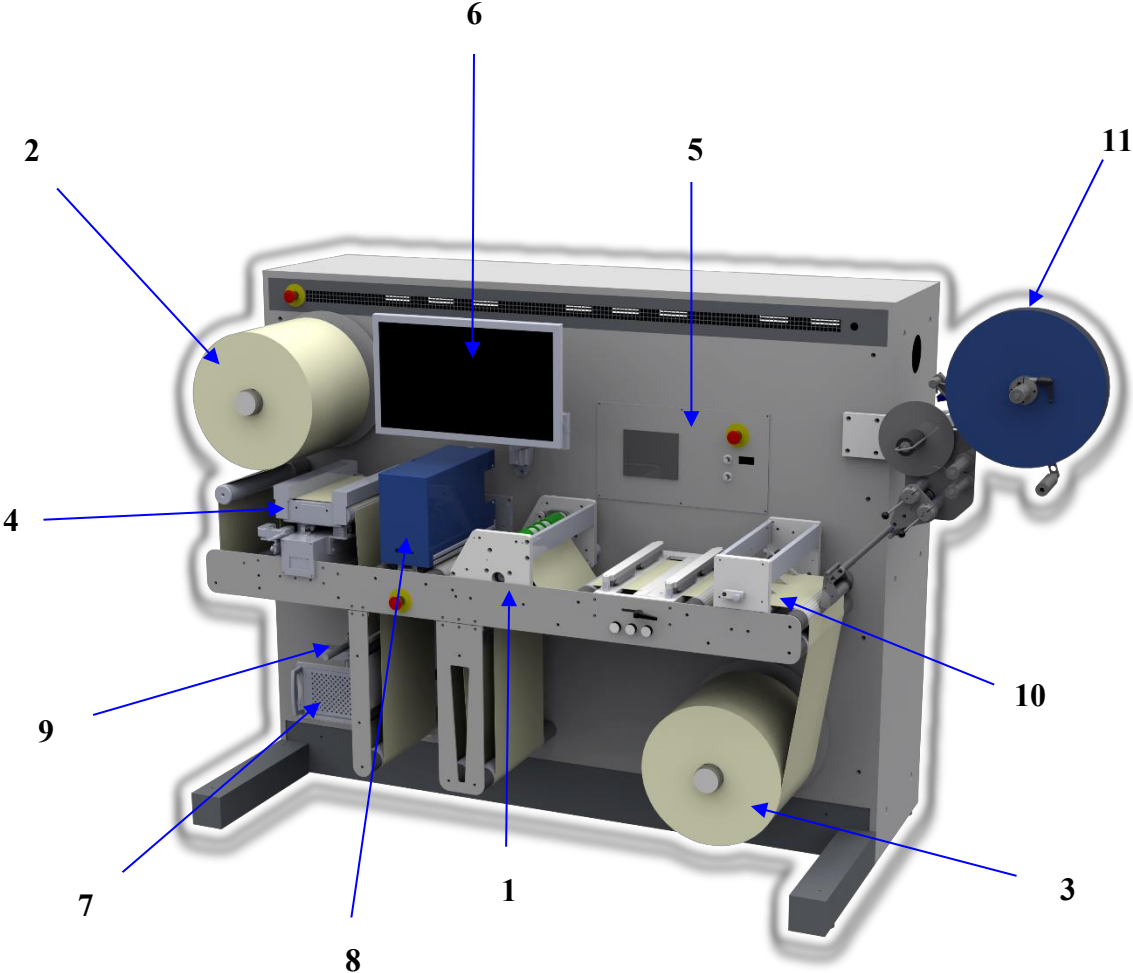


Caution: *When the machine is stopped:*

- *Wear protective gloves to protect your fingers from sharp objects when performing maintenance near sharp edges.*
- *When inspecting, cleaning or pulling web through the machine etc. do not get distracted.*
- *Make sure the machine is properly grounded. The grounding pin/line (protective earthing) is a safety feature, and a secured connection is vital. A qualified service engineer should verify or repair the connection, whenever cabling or terminals are damaged. Do not circumvent this grounding system.*
- *Do not allow anything to rest on a power cord. Do not locate the unit where persons may walk on the power cord. If necessary, make sure to provide adequate protection for the power cord.*
- *To disconnect a plugged-in power cord, pull it out by the plug. Never pull the cord itself.*
- *Never push objects of any kind into the unit through cabinet slots, as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock.*

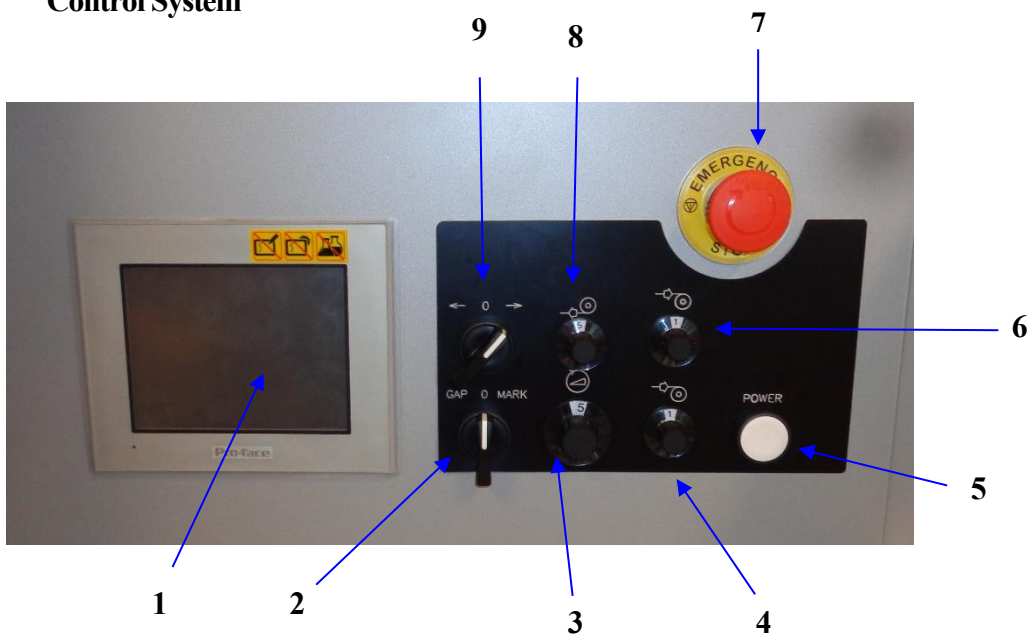
- *Never spill liquid of any kind on the machine. Should any liquid or solid object fall into the cabinet, turn the power off and have the machine checked by qualified service personnel before resuming operations.*
- *Lightning: For added protection of the machine during a lightning storm, or when it is left unattended and unused for long periods of time, disconnect the main power supply. This prevents damage to the machine due to AC power line surges.*
- *Do not remove or replace any fuse. Refer servicing to qualified personnel.*

7. Mechanical System



Item	Description
1	Nip
2	Unwinder
3	Rewinder
4	Web guide
5	Main control panel
6	Inspection system control panel
7	Inspection system computer
8	Inspection system camera
9	Inkjet printer head
10	Slitting station
11	Label dispenser

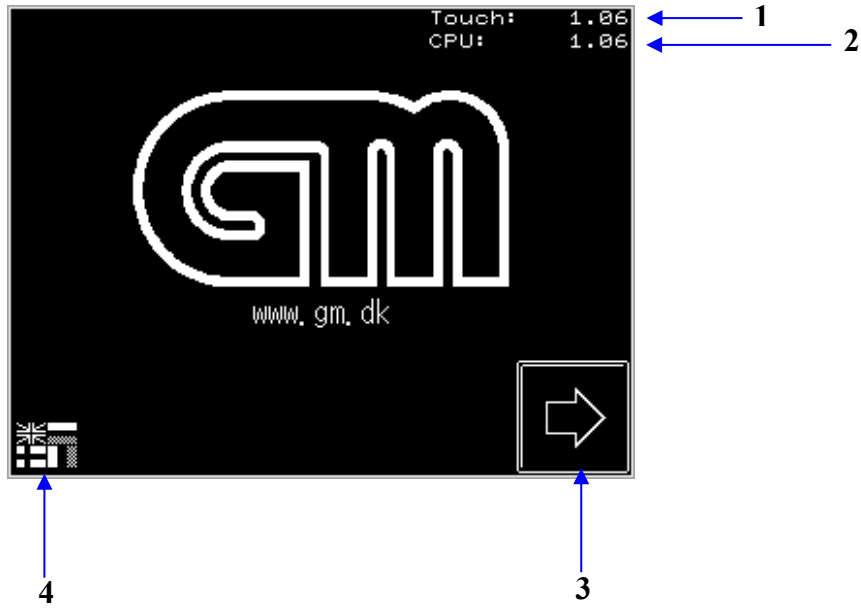
8. Control System



Item	Description
1	Touch screen
2	Label counter/inkjet trigger sensor select
3	Speed potentiometer
4	Lower rewind tension potentiometer
5	Start button
6	Upper rewind tension potentiometer
7	Emergency stop
8	Unwind tension potentiometer
9	Running direction

8.1. Start-up Screen

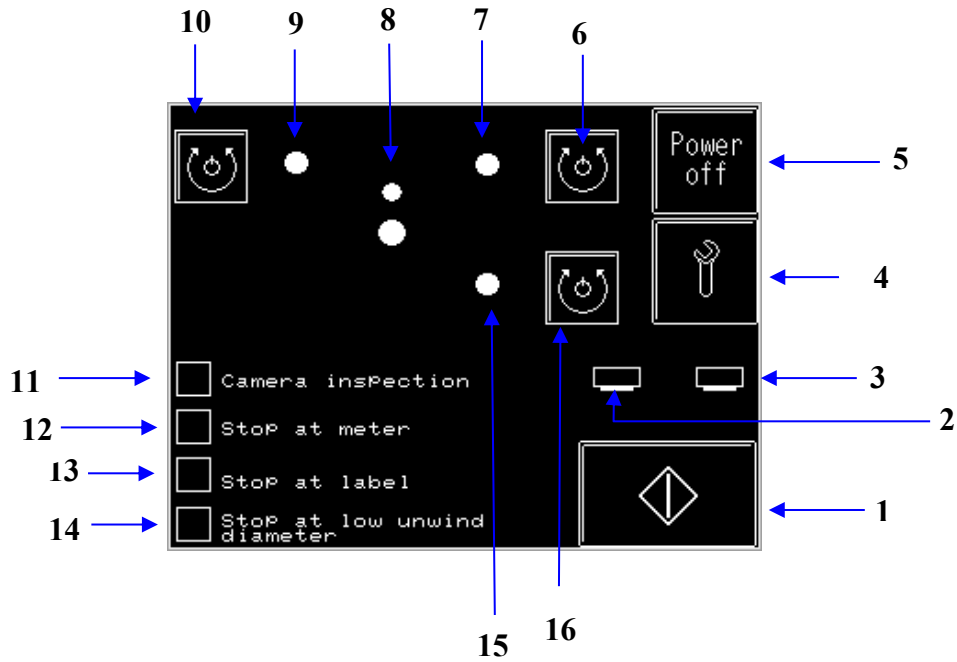
When the machine is turned on, the panel will light up, and after a few seconds the start-up screen emerges.



Item	Description
1	Touch Screen Version
2	Software Version
3	“Next” Press this button to access main screen
4	Press this button to access language selection

8.2. Main screen

The main screen is used for normal operation of the machine. It consists of several settings buttons and is accessed by pressing the “Next” button on the start-up screen.



Item	Description
1	Start button
2	Activate/deactivate clamp 3
3	Activate/deactivate clamp 4
4	Parameter menu
5	Power off button
6	Set direction upper rewinder
7	Air mandrel for upper rewinder
8	Enable/disable Nip pressure
9	Air mandrel for unwinder
10	Set direction unwinder
11	Enable/disable inspection system control of machine
12	Enable/disable stop at meter

13	Enable/disable stop at label
14	Enable/disable stop at low unwind diameter
15	Air mandrel for lower rewinder
16	Set direction lower rewinder

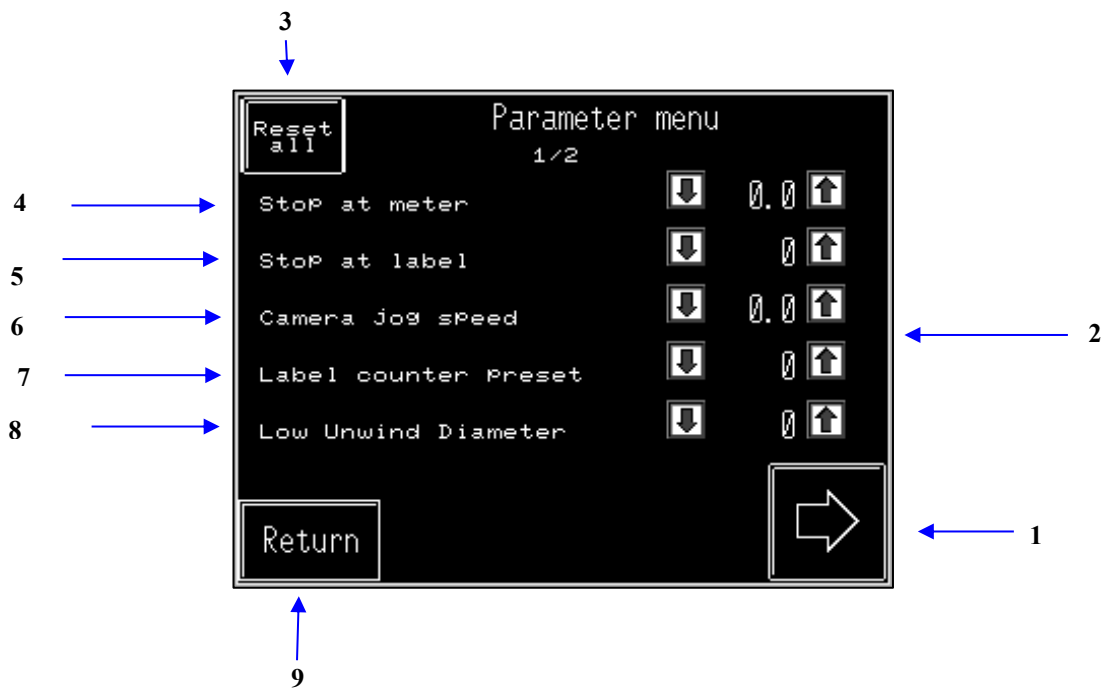


Direction:

The direction of the unwinder and rewinder is set by pressing the accompanying button to set the desired direction. If a direction is not set, the unwinder or rewinder will not spin when the machine is set in running mode.

8.3. Setup Menu

The setup menu can only be accessed when the machine is not in the running state. When the setup button is pressed, the touch screen displays the screen below:



Item	Description
1	Next menu page
2	Value and increment/decrement arrows for parameters
3	Reset all parameters button
4	Target meter to stop at

5	Target label to stop at
6	Machine slow down speed
7	Label count preset value
8	Low unwind diameter threshold
9	Return to main screen button

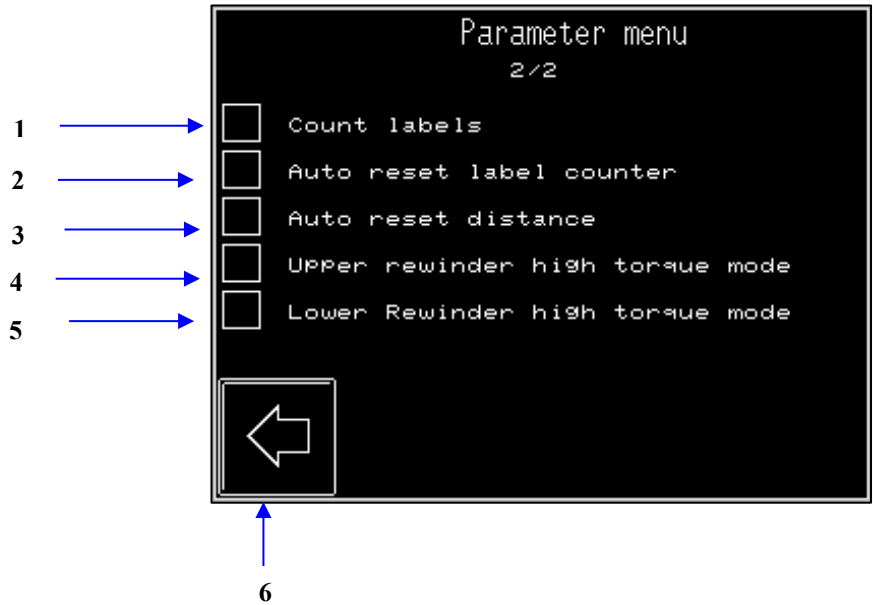
To change the numeric value of any parameter in this menu, press the increment or decrement arrow next to the desired value. If a large incrementation/decrementation of the desired parameter is needed, hold the button down for fast correction of value. Press the “reset all” button to reset all numerical values to factory default. All changes are saved as they are made.

Camera jog speed: The camera jog speed determines the slowdown speed for the machine to use when positioning detected faults. The speed value range is 2.0-10.0 m/min, with 0.1 m/min intervals.

Stop at meter: The target meter determines how far the machine will run before automatically stopping. The distance range is 0-9999 meters, with 0.1m intervals. The machine will only stop if the “stop at meter” option has been selected from the main screen.

Stop at label: The target label determines how many labels that will pass through the machine before automatically stopping. The value range is 0-9999 labels. The machine will only stop if the “stop at meter” option has been selected from the main screen and label counter has been activated in the menu.

Low unwind diam.: The low unwind diameter determines when the machine will stop because of low material on the unwinder. The value range is 90-170mm, with 1mm intervals. Default value is 100mm.



1	Enable/disable label counting
2	Enable/disable automatic reset of label counter
3	Enable/disable automatic reset of distance
4	Enable/disable high torque mode on upper rewinder
5	Enable/disable high torque mode on lower rewinder
6	Previous menu page

To enable any of the options in this menu, press the box located by the desired parameter. A check mark signals the option is enabled, an empty box signals that it is disabled. All changes are saved as they are made.

High torque mode: If high torque mode is not enabled for the rewinder(s), they will use standard torque mode.

Auto reset: If auto reset is enabled, the machine will automatically reset the value when the machine is stopped and started again. If disabled, the machine will retain the values even if stopped and started again.

9. Running IR330

To operate the machine properly and have jobs done, simply follow the steps outlined below:

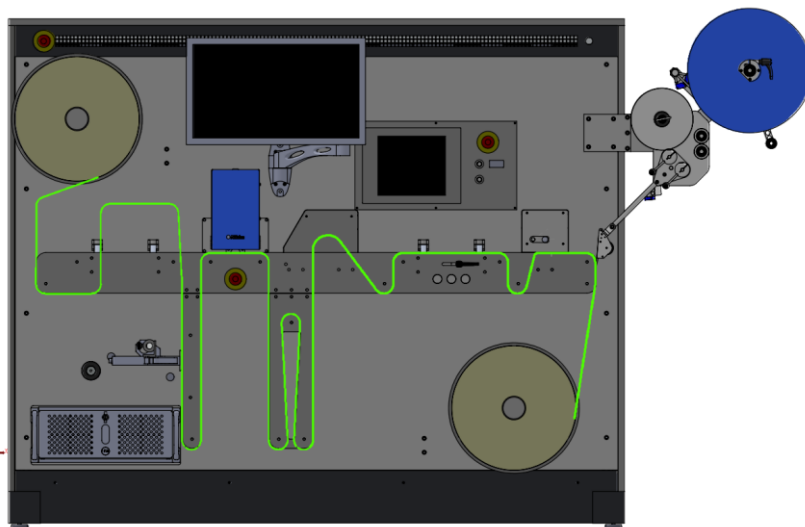
9.1. Start Machine

Press “Start Button” to start the machine



9.2. Machine Webbing

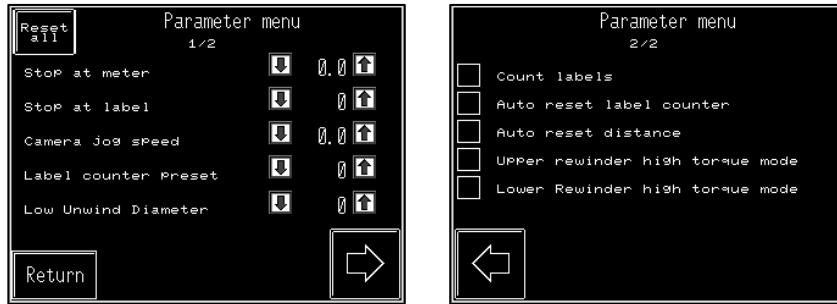
Accurate webbing of IR330 is very important for proper operation of the machine. The IR330 offers a single path for easy use, as shown in the webbing diagram below.



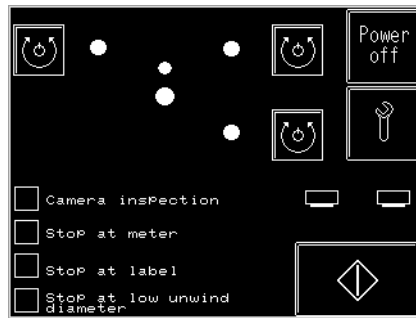
9.3. Set Parameters via Touch Screen

To set the right parameter values for the machine, use the Setup and the main screen menus to set all parameters required to do a specific job. Take the steps below:

- Press “Setup” button, indicated by the wrench on the main screen, to access the setup menu and set the right parameters for the job.



- Press “Return” to access the Main screen.



In this screen, select all necessary parameters and settings required for the job.

- Press “Start”



Press “Start” to start running a job

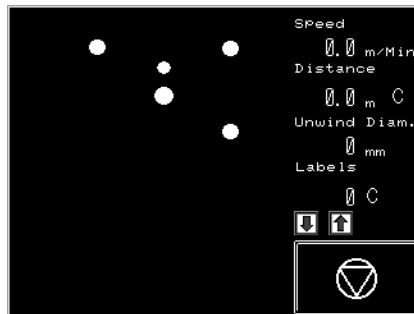


It is not possible to access the “Setup” menu or change roll direction, once the machine is running.



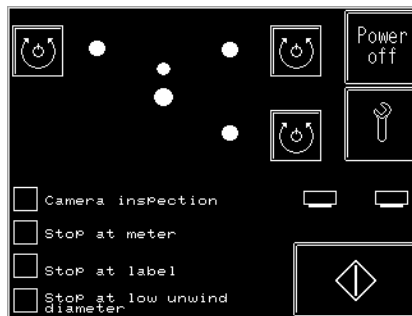
Ensure that the “running direction” switch is turned towards the arrow pointing right. If not, the machine will not run when you press start.

9.4. Stopping Machine



Press "Stop" to stop running a job

9.5. Shutting Down Machine



Press and hold "Power off" button for 5 seconds.



Press "Yes" button to power down machine.



Before shutting down the machine, ensure that the inspection system has been shut down properly from its own control panel, otherwise it may be damaged.

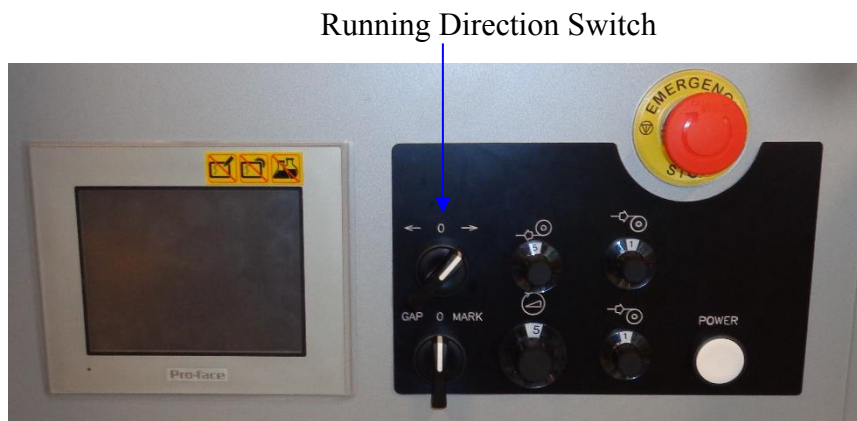
9.6. Using the Inspection system

Turn on the inspection system by pressing the “M1” button located in the front panel, below the blue camera. Once the system is online, it should be ready to use. The inspection system is controlled through the large touch screen.

Detailed operating instructions can be found in the accompanying manual.

9.7. Reversing the web for re-inspection

The machine is only designed to run in reverse (right-to-left) to enable re-inspection of a label. This is done by holding the “running direction” switch to the arrow pointing left.



The machine will run the web in reverse at 5 m/min, this cannot be changed. Follow the fault on the inspection system screen. Once the fault has passed under the inspection camera, turn the “running direction” switch to the arrow pointing right, restart inspection, and turn the speed potentiometer to the desired running speed.



Before changing the running direction of the machine, ensure that the speed potentiometer is turned all the way down to zero. If this is not done, the machine will jerk when returning to forward running direction and may damage or break the web.

9.8. Using the label dispenser

Manually align the label dispenser with the web, so that the dispenser applies the labels as desired on the product. Place the trigger sensor so that the web runs through it without scraping the edges as seen in the image below.



Trigger Sensor

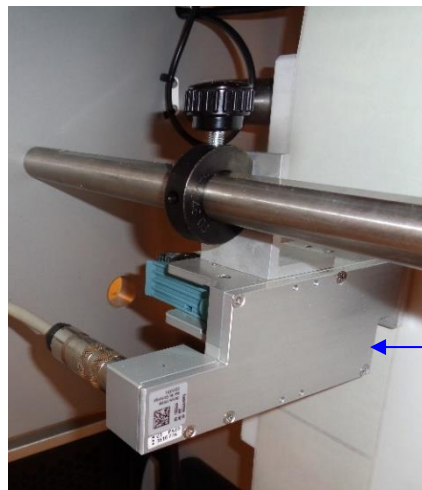
Detailed instructions on how to use and thread the label dispenser can be found in the accompanying manual.



The machine should not run at more than maximum 30 m/min when using the label dispenser.

9.9. Using the Inkjet

Select the correct trigger sensor for the job with the “inkjet trigger sensor” switch, it can be either a mark reader or a gap sensor. Place the print head so that it prints on the desired location on the web.



Print Head

Gap sensor: Adjust trigger sensor so that the web runs through it without scraping the edges.

Mark reader: Adjust trigger sensor so that marks pass under the sensor's read area.



Mark Reader

The inkjet is configured separately with the G-View software, see the accompanying manual for detailed operating instructions.

10. Status Messages

Clamp is down	One or more of the clamps are active, preventing the web from moving. Release all clamps before starting the machine.
Splice detected	The machine has detected a splice in the web and stopped the machine. Manually run the machine at reduced speed until the splice has passed through the machine to ensure the web does not break.
Low unwind diameter.	The machine has stopped because the unwinding roll has reached the minimum limit.
Label reached	The target label has been reached and the machine has stopped.
Meter reached	The target distance has been reached and the machine has stopped.
External control Camera jog	The machine is being slowed down to place a detected fault on the splicing table.
External control Camera stop	The machine has stopped and placed a detected fault on the splicing table.

11. General maintenance

To ensure many years of continuous operation without technical problems, this machine should be oiled, cleaned and checked at intervals. Do the followings to keep the machine in a good working condition:

- Paper dust is removed by a vacuum cleaner or high-pressure air.
- Painted surfaces should be cleaned using lukewarm water with mild detergent added.
- Wearing parts should be changed when they wore out.
- To clean the touch screen, soak a cloth in water with a mild detergent and wipe the screen gently. Never use strong detergents, alcohol, oil products or acid on the panel.

12. Spare parts

For replacement/spare parts, contact GM. Gm's Technical Support department handles all spare parts enquires and provide spare parts when needed by GM's customers globally.

13. Technical specifications

Consumption of power:	6.4 kW maximum.
Supply voltage	400V, 16A, 3PH+N 50/60 Hz
Compressed air	5 bar, 1 l/min
Max. web width	330 mm
Max. web speed	100 m/min
Min. Mandrel	Ø 25 mm (1 inch)
Max. mandrel	Ø 76 mm (3 inches)
Min. substrate thickness	50 gsm
Max substrate thickness	200 gsm
Machine Weight	Net 1000kg/1200 kg

