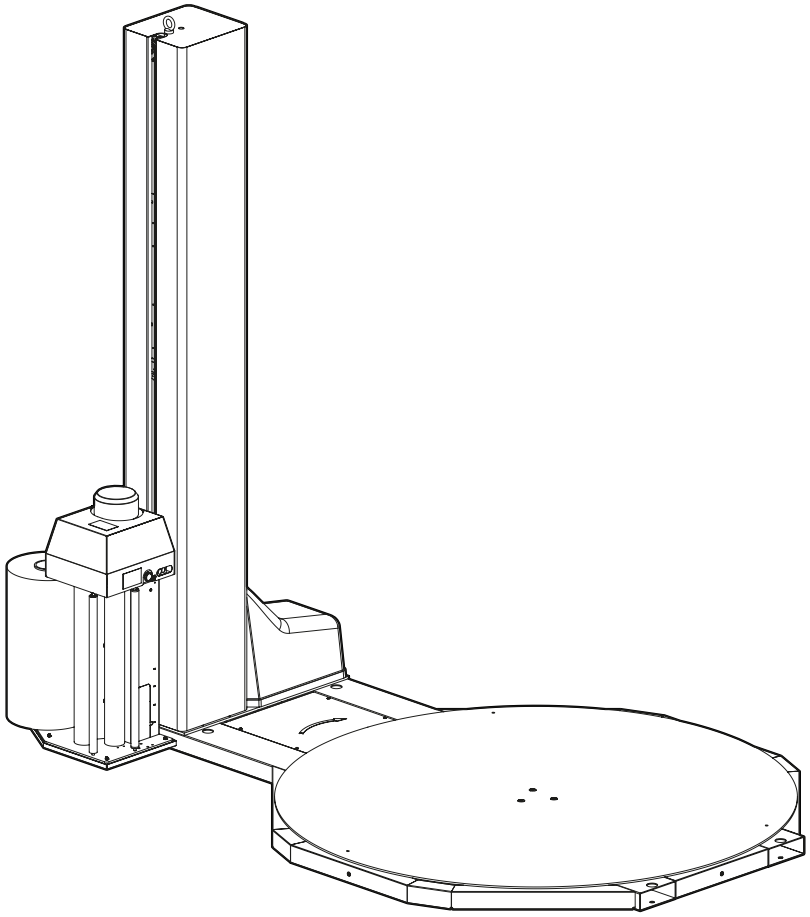
FROMM | WRAPPING SOLUTIONS

Turntable - Mast

FS335
FS370
FS340-350-380-385

Operator Panel

Translation of the original



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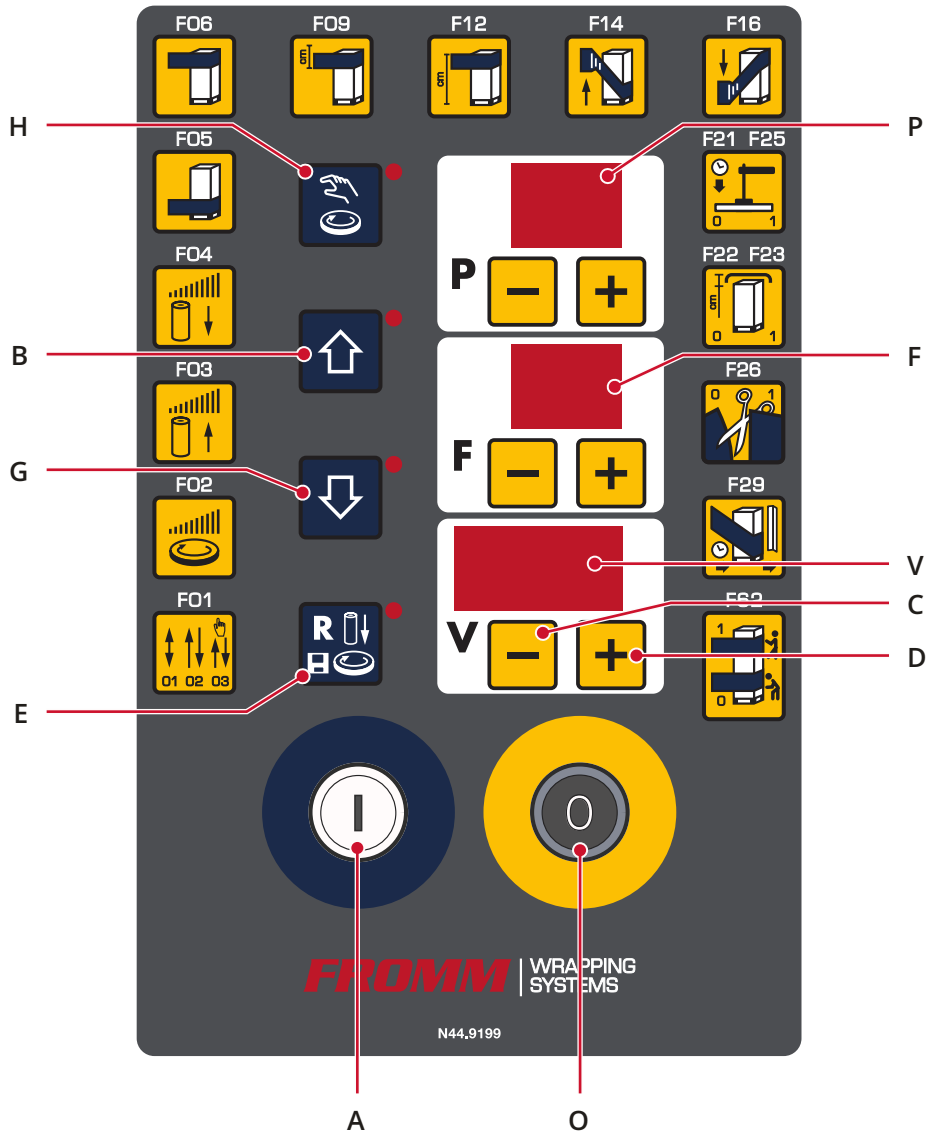
EN Rev.2 01/03/2021

1 GENERAL CONTROLS

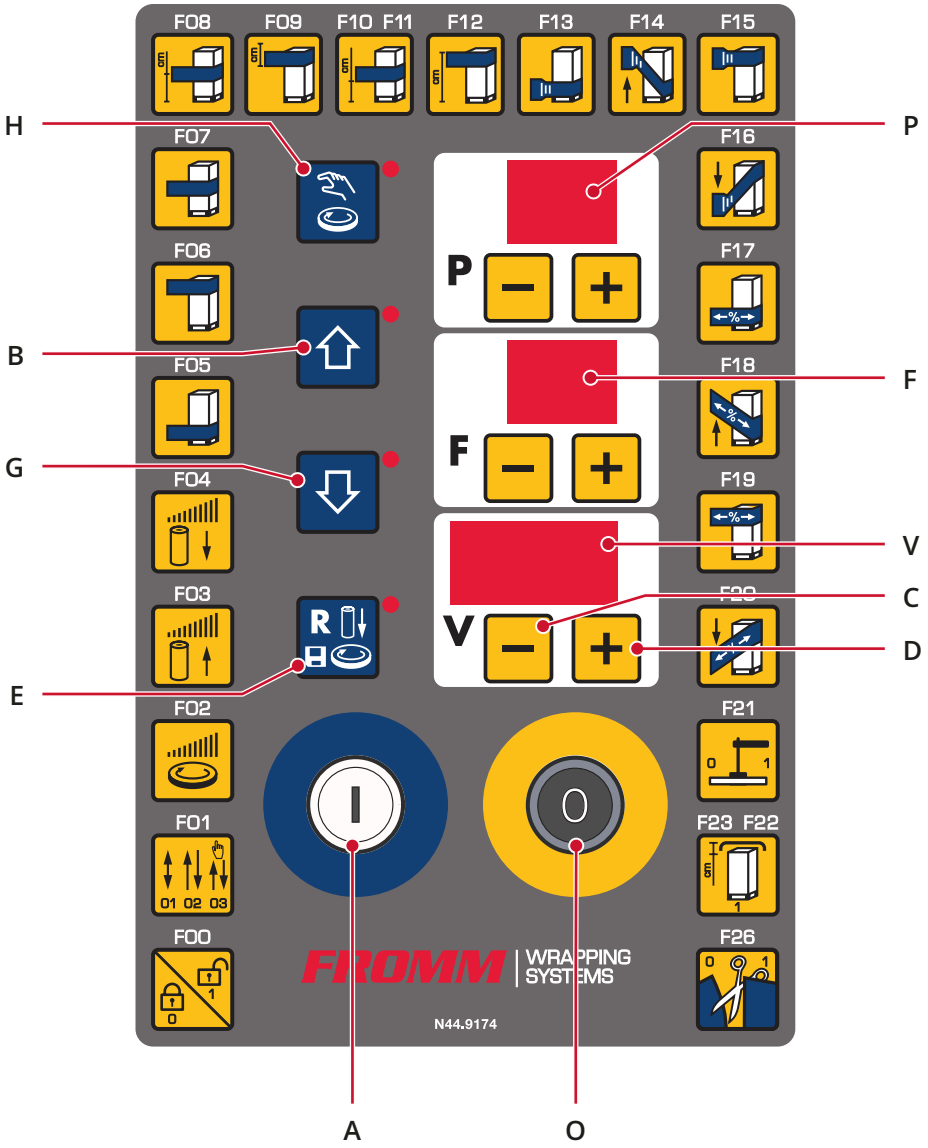
1.1 COMMANDS WITH BUTTONS

1.1.1 FS335 PANEL



Picture 1

1.1.2 FS370 - FS340-350-380-385 PANEL



Picture 2

1.1.3 CONTROLS DESCRIPTION

A Programmed cycle START button.

B Carriage up manual retention button.

If pressed together with **(E)**, the presser automatically rises to the up cycle start position.

C Decrease values button.

D Increase values button.

E **Alarm reset** (fast pressure – less than 2 second);

Saving parameters (press until the LED flashes - more than 3 seconds);

When pressed along with the **STOP** button, it stops and resets the cycle (the display **(V)** shows **INI** to show the cancellation).

F 2-digit display indicating the functions (parameters) of the selected programme;

During the cycle it shows the current operating status;

CF on the display **(V)** at the end of the cycle means the film is depleted;

AA on the display **(V)** means there is an alarm on the machine.

G Carriage down manual retention button (if pressed together with **(E)**, the carriage automatically descends to the low cycle start position).

H Rotating arm manual, hold down to stop the rotating arm in phase (if pressed together with "E" the table automatically turns to the phase position).

O **STOP** cycle pause button, the rotating arm decelerates and stops, the cycle can be resumed from the same point.

P 2-digit display showing the selected programme;

During the cycle it shows an animation of the rotation of the platform;

NOTE: the flashing display indicates that a parameter has been changed).

V 3-digit display indicating the value of the displayed function;

During the cycle or manually moving the film carriage, it indicates the current height;

The central and left points are decimal points for the values. When the right point is lit, the **V+** and **V-** keys are blocked and the parameter values cannot be changed.

1.1.4 FS335 / FS370 / FS340-350-380-385 OPERATION

» See Picture 1 - pag. 1
» See Picture 2 - pag. 2

Loading of parameters: takes place automatically by selecting the desired programme.

Saving of parameters: if the LED of the **RESET** key **(E)** is turned off, press the **RESET** key for more than 4 seconds. This LED will start to flash rapidly to indicate that the parameters have been saved.

The program P=00 is read-only and it is configured with default values.

Up to 99 programmes can be created (based on the machine model): To copy the parameters of an existing program on a virgin program, select the program source, press and hold **RESET** and act on **P+** and **P-** buttons to select the target program. Release the **RESET** button within 4 seconds the parameters will be copied only, if held down for more than 4 seconds and then released, will be copied and saved.

NB: The virgin target programme must always be released (**F00**=1) (LED of the **RESET** key **(E)** is turned off).

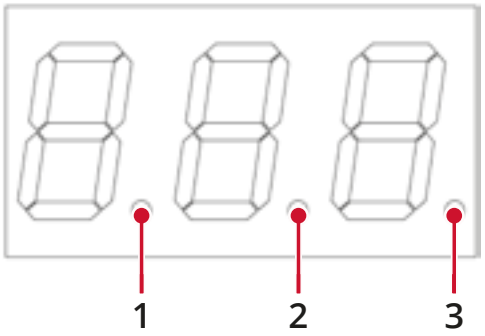
Automatic opening of the program used previously.

When the machine is turned on again, the parameters from the last programme selected and started will be loaded.

Keyboard block/ release: prevents modification of parameters by blocking the keys **V+** e **V-**; hold down at the same time **F+** and **F-** and then press **RESET** to enable / disable the block. When the active function the right LED of the display **(V)** lights up and stays lit.

The disabled/enabled status remains even after the machine has been turned off and on again.

DISPLAY (V)



Picture 3 - DISPLAY (V)

1) indicates the decimal point (values from 0.00 to 9.99)
2) indicates the decimal point (values from 0.0 to 9.9)
3) indicates the block status of keyboard
   ON: keyboard blocked (**V+** and **V-** blocked)
   OFF: keyboard released (**V+** e **V-** sbloccati)

Signals

The LED of the **RESET** key **(E)** indicates the writing protection status of the selected programme. If turned on, it is not possible to rewrite the modified parameters. It is necessary to select the parameter **F00** on the same programme to carry out modifications and set the value 1 in the parameter, and then hold down **RESET** for at least 3 seconds. If the programme is to be saved and at the same time blocked in writing, after saving it, set 1 in parameter **F00** (padlock open) and then 0 again (padlock closed) and then hold down **RESET** for at least 3 seconds. The LED will blink fast only pressing the **RESET** for more than 3 seconds, indicating the machine is ready to store the parameters; by depressing the **RESET** button, the parameters will be stored. The LED wil blink slow only to report the alarm status

The LED next to the FOOTBOARD MANUAL button indicates the automatic command of footboard rotation.

The LED next to the MANUAL CARRIAGE RISE indicates the automatic command of the carriage rise.

The LED next to the MANUAL CARRIAGE DESCENT indicates the automatic command of the carriage descent.

Indication of the film consumed

At the end of each cycle (or by selecting the parameter **CF** on the display **(F)**), the machine will indicate the consumption of the film in grams on the display **(V)** and showing **CF** on the display **(F)**. To obtain good precision, correctly set the thickness of the film in the parameter **F24.**

NOTE: It is also possible to order models with film consumption expressed in metres. In this case as well, to obtain good precision, correctly set the diameter of the measurement roller in the parameter **F24**.

Turntable end carriage in-phase stop

Through the combination of multiple buttons you can stop in-phase the machines.

Pressing the button **(H)** and, keeping it pressed, press the button **(E)**, the turntable rotates until it reaches a predetermined position (called stop in-phase) and then stops.

Pressing the button **(G)**, and keeping it pressed, press the button **(E)**, the carriage falls to the low position and then stops.

Press the button **(B)** and, holding it down, press the button **(E)**. The presser automatically ascends to the start cycle top position.

2 FUNCTIONS

2.1 CONTROL PANEL FUNCTIONS

FS335	/	/	FS370 FS340-350-380-385		
X	X	X	X	**F00**	This parameter is used to prevent cycle parameters from being overwritten: **0** block, **1** release
X	X	X	X	**F01**	Set cycle: **01** up and down **02** up or down; **03** manual; **04** fast cycle up and down and **05** layers
X	X	X	X	**F02**	Table rotation speed: selectable from 05 to 100
X	X	X	X	**F03**	Carriage up speed: selectable from 05 to 100
X	X	X	X	**F04**	Carriage down speed: selectable from 05 to 100
X	X	X	X	**F05**	Number of bottom wraps
X	X	X	X	**F06**	Number of top wraps
		X	X	**F07**	Number of intermediate wraps (**F08**)
		X	X	**F08**	Height at which wraps are performed (**F07**), referred to the centre of the film (as the roll is 50 cm high, values of less than 25 cm cannot be set) **NOTE:** the stretch is set in parameter **F32** while the pre-stretch is set in parameter **F33** (only for the PS (MPS2) carriage)
X	X	X	X	**F09**	Strip of film placed over the top of the product
		X	X	**F10**	Height at which the winding cycle begins, referred to the lower edge of the roll of film
		X	X	**F11**	Height at which the winding cycle ends, referred to the lower edge of the roll of film
X	X	X	X	**F12**	Height at which the carriage stop rising, referred to the upper edge of the roll of film (product presence photocell disabled)
		OPT	OPT	**F13**	Tension of film during bottom wrapping: selectable from 0 to 100
	OPT	OPT	OPT	**F14**	Tension of film during the ascent of the carriage: selectable from 0 to 100

FS335	/	/	FS370 FS340-350-380-385		
		OPT	OPT	**F15**	Tension of film during top wrapping: selectable from 0 to 100
	OPT	OPT	OPT	**F16**	Tension of film during the descent of the carriage: selectable from 0 to 100
			OPT	**F17**	PS (MPS2) carriage only: film extension during bottom wraps: selectable from 120 to 400
			OPT	**F18**	PS (MPS2) carriage only: film extension during the ascent of the carriage: selectable from 120 to 400
			OPT	**F19**	PS (MPS2) carriage only: film extension during top wrapping: selectable from 120 to 400
			OPT	**F20**	PS (MPS2) carriage only: film extension during the descent of the carriage: selectable from 120 to 400
	OPT	OPT	OPT	**F21**	Cycle with presser unit (Opt.): enabled **1** or disabled **0**
X	X	X	X	**F22**	Cycle with pause: enabled **1** or disabled **0**
X	X	X	X	**F23**	Carriage descent position with **F22** = **1**
OPT	OPT	OPT	OPT	**F24**	Thickness of film being used: 10 ÷ 35 microns (Opt: for models with film consumption in metres, set the diameter of the measurement roller from 60 ÷ 120 mm)
	OPT	OPT	OPT	**F25**	End delay of the pressure descent (adjustment of pressure on product)
	OPT	OPT	OPT	**F26**	Cycle with cutting OPT **0** = excluded, **1** included with one blade stroke, **2** included with two blade strokes
	OPT	OPT	OPT	**F27**	Cutting time after the phase: 0 ÷ 100 tenths of a second (Film cutting tension)
	OPT	OPT	OPT	**F28**	Film exit time after cutting: 0 ÷ 100 tenths of a second
X	X	X	X	**F29**	Film extraction time with light tension at the beginning of the cycle

FS335	/	/	FS370 FS340-350-380-385	
		X	X	**F30** Upward cycle in steps of the roll holder carriage; **0** = disabled
		X	X	**F31** Number of step revs (**F30**)
		OPT	OPT	**F32** Film tension on the product during the step cycle rotations
		OPT	OPT	**F33** Only PS (MPS2) carriage: lengthening of the film during the step cycle rotations
		OPT	OPT	**F34** Number of initial creasing rotations at the base of the product (after **F05** rotations with film open); if = **0** do not perform creasing at the base
		OPT	OPT	**F35** **0**: creasing in ascent disabled **1**: creasing complete in ascent (Opt: advanced creasing) **2**: creasing from low rotations up to the reinforcement (excluded) (Opt: advanced creasing) **3**: creasing from the reinforcement (included) at high rotations (Opt: advanced creasing) **4**: creasing only during reinforcement
		OPT	OPT	**F36** Number of creasing rotations at the top of the product (Opt: advanced creasing) before performing the creasing rotations, raise **F63** cm; if **F36** = **0**, do not perform creasing at high rotations
		OPT	OPT	**F37** **0**: creasing in descent disabled **1**: creasing complete in descent (Opt: advanced creasing) **2**: creasing from the reinforcement (included) at low rotations (Opt: advanced creasing) **3**: creasing from high rotations up to the reinforcement (excluded)
		OPT	OPT	**F38** Number of final rotations at the base of the product; if **F38** = **0**, do not perform creasing
		OPT	OPT	**F39** Crease closing adjustment time (permits wrapping with partially closed film)

FS335	/	/	FS370 FS340-350-380-385
	OPT	OPT	OPT
	OPT	OPT	OPT
X	X	X	X
		OPT	OPT

F60 Presser rise time in the cycle with **F22** = **1** (**F22** Cycle with pause: enabled **1** or disabled **0**)

F61 Number of wraps at the restart of the layers cycle (optional, **F01** = **5**)

F62 Comfort height included **1**, excluded **0**

F63 (Opt: advanced creasing) further ascent of the carriage after the high rotations

2.2 ADDITIONAL MANUAL CONTROLS

The **(F)** display is used for showing the manual controls. To execute the manual command, use the buttons **F+** and **F-** to select the desired command and press the button indicated in the list below:

COMBINATIONS COMMANDS/BUTTONS		ACTION
C0	Button **(B)**	Clockwise arm rotation
C0	Button **(G)**	Counterclockwise rotation arm (only on Station)
C1	Button **(B)**	Carriage up
C1	Button **(G)**	Carriage down
C2	Button **(B)**	Presser up
C2	Button **(G)**	Presser down
C3	Button **(B)**	Rotating roller conveyor, loads pallets up to the wrapping position
C3	Button **(G)**	Rotating roller conveyor, unloads pallets
C4	Button **(B)**	Clamp closing
C4	Button **(G)**	Clamp opening
C5	Button **(B)**	Lift connector
C5	Button **(G)**	Film cutting/sealing test sequence (the alarms are disabled; allows checking the position of the sensors and the valve adjustments)
C6	Button **(B)**	Lift creasing carriage
C6	Button **(G)**	Lower creasing carriage
C7	Button **(B)**	Roller conveyors forward, aligns the pallets with the first available photocells
C7	Button **(G)**	Roller conveyors forward, unloads the pallets from the line (when applicable)
C8	Button **(B)**	Cutting actuation

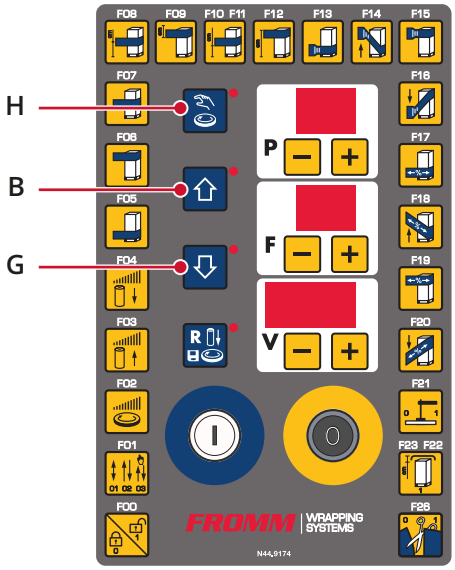
2.3 AUTOMATIC CYCLES

» See Picture 4 - pag. 12

F01 = 01 - COMPLETE UP/DOWN CYCLE

Automatic cycle which wraps the pallet starting from the bottom, reaching the top and returning to the bottom.

During winding, buttons **(B)** (carriage going up) or **(G)** (carriage going down) can be pressed to stop the carriage, add extra wraps wherever required, and start it again.



Picture 4

» See Picture 4 - pag. 12

F01 = 02 - UP ONLY OR DOWN ONLY CYCLE

DANGER

The cycle "up only or down only" is required for maximum height of the product to be wrapped at 1500 mm. Beyond this height, you must use appropriate personal protective equipment based on the risk of falling and work height exceeding 1500 mm.

Automatic cycle which wrapp the pallet starting from the bottom to reach the top or starting from the top to reach the bottom.

During winding, buttons **(B)** (carriage going up) or **(G)** (carriage going down) can be pressed to stop the carriage, add extra wrapp wherever required, and start it again.

F10 - CYCLE START AT PRESET HEIGHT

Automatic cycle that wraps the pallet starting from a preset height which is set with the **F10** function.

F11 - CYCLE STOP AT PRESET HEIGHT

Automatic cycle that wraps the pallet stopping at a preset height which is set with the **F11** function.

F21 = 01 - CYCLE WITH PRESSER (OPTIONAL)

Automatic cycle that can be used when the machine is equipped with the optional presser.

F21 = 1 ENABLED **F21 = 0 DISABLED**

Once the start cycle button has been pressed **(A)**, an acoustic warning signals five seconds in advance that the presser plate is going to descend.

- After the audible warning time has elapsed, the presser descends until it is in contact with the top of the product. The function **F25** delays the stop of the descent to adjust the pressure on the product.
- The table begins to turn and the wrapping phase of the product on the pallet starts.
- At the end of the cycle the turntable stops and the presser plate returns upwards, leaving the product free for unloading.

To manually control the ascent and descent of the pressure unit the Functions display needs be set to **F21** (which needs to be set to **1** as Value) and press button **(B)** for ascent or button **(G)** for descent.

» See Picture 4 - pag. 12

F22 = 01 - COMPLETE UP/DOWN CYCLE WITH PAUSE

DANGER

The cycle "up/down with pause" is required for maximum height of the product to be wrapped at 1500 mm. Beyond this height, you must use appropriate personal protective equipment based on the risk of falling and work height exceeding 1500 mm.

Automatic Up and Down cycle or Up only with a pause when the top of the product being wrapped is reached; before the pause the carriage can descend by a distance set with **F23**. The machine stop and wait to restart emitting a slow intermittent signal. If the machine has a presser, it ascends for the amount of time set in **F60**.

To complete the paused wrapping cycle press the start cycle button **(A)**.

If the cycle set is for ascent and descent, the carriage ascends, performs the top rotations, descends toward the base, and then the cycle stops.

If the cycle set is for ascent only, the carriage ascends, performs the top rotations, and then the cycle stops.

2.4 SEMIAUTOMATIC OPERATING CYCLE

» See Picture 4 - pag. 12

F01 = 03 - SEMIAUTOMATIC OPERATING CYCLE

After setting the semiautomatic cycle press **START (A)**.

The table starts rotating again and the pallet wrapping phase begins.

Press buttons **(B)** and **(G)** to wrap the pallet. To stop the machine, press the button **(H)**.

F30 SEMIAUTOMATIC OPERATING CYCLE

Automatic cycle that allows the pallet to be wrapped in steps.

The carriage ascends to the height set in **F30**, performs a number of rotations set in **F31**, and repeats until the top of the product is reached.

During the reinforcement rotations, the tension and lengthening of the film can be adjusted using the parameters set in **F32** and **F33**.

2.5 ALARM LIST

Code	Description	Causes	Solutions
E01	Transpallet photocell interrupted	- The safety photocell is activated. - The photocell has no obstacles but the signal does not get to the card.	- Remove the obstacle / check the mirror on the safety photocell. - Make sure the photocell is operating and the LED changes status when an obstacle is inserted. If it is not working, replace it. Check the continuity of the cable with the signals on the panel 1+ and 8.3. Replace if broken.
E02	Rotation or running anomaly, motor blocked	- The sensor does not read the petals because it is too far from the phonic wheel. - The sensor does not read the petals because the phonic wheel is broken or crooked. - The sensor does not send the signal to the card. - The motor seems to rotate at less than 500 rpm for more than 2.5 s. - The machine does not move, even with manual controls.	- Adjust the position of the sensor compared to the petals of the phonic wheel (distance < 2 mm). - Fix / replace the phonic wheel. - Check the correct operation of the sensor, bringing it close to a metallic object. If the LED lights up, replace the cable, if the sensor does not work, it needs to be replaced. - If the robot is rotating on unsuitable flooring (carpet), choose a smooth and flat floor that is not slippery. If the alarm occurs during slowing, the sensor is not reading all the petals of the phonic wheel. - The drive or inverter does not receive consent to start, check the wiring. The drive or inverter is faulty, communicate the code shown on the latter. For a DC motor, check the brushes. The motor cable is not connected well, check the wiring and tightness, even on the brake, if present. The electromechanical brake on the motor, if present, may not release. If this occurs, it must be adjusted or replaced. The motor unit may be damaged or defective; replace it.
E03	Restart after power outage.	- The card restarted. - The machine shut down and shows this warning.	- Press the RESET key. - There was a power outage and the machine shut down and then restarted: Press the RESET button (no power) or bell (touch).
E04	Carriage, crush prevention limit switch triggered	- Obstacle below the carriage. - The E04 alarm persists without any obstacle.	- Remove the obstacle and press RESET. - Check the proper mechanical operation of the micro and the crush-prevention plate. If a sensor is broken or the plate is deformed, they must be replaced. Check the electrical contacts and that the signal reaches the card. If the sensor is broken or the cable is interrupted, replace it.

E08	Carriage ascend/descend anomaly	- The sensor does not read the petals because it is too far from the phonic wheel. - The carriage only moves in one direction. - The sensor does not send the signal to the card. - The roll holder carriage does not move, even with manual controls.	- Adjust the position of the sensor compared to the petals of the phonic wheel (distance < 2 mm). If the phonic wheel is broken or damaged, it must be replaced. - Check if the control signal reaches the drive, then verify if the status LED is lit. Check if the carriage limit switch is pressed or blocked. - Check the correct operation of the sensor, bringing it close to a metallic object. If the LED lights up, replace the cable, if the sensor does not work, it needs to be replaced. - The drive or inverter does not receive consent to start, check the wiring. The drive or inverter is faulty, communicate the code shown on the latter. For a DC motor, check the brushes. The motor cable is not connected well, check the wiring and tightness, even on the brake, if present. The motor unit may be damaged or defective; replace it. Check the battery.
E09	Stop after film breakage or film end.	- The film roll is finished. - The film flap came off or the film is broken. - The film does not come out. - The film is not properly connected to the product.	- Change the roll. - Hook the film back on the pallet. - Check the proper operation of the dancer sensor removing the film and operating it manually. If it does not work, make sure the sensor is operating properly. The film pull value is high, lower it. - If the film does not glide within the carriage for first **(x)** seconds, the alarm is triggered. Attache the film tighter.
E10	Carriage limit switch error	- Wiring or power outage error	- Check the limit switch wiring and power Check the carriage motor brushes.
E11	Low limit switch error: it did not close during carriage ascent	- Carriage motor blockage - Limit switch faulty or blocked.	- Check the carriage motor (motor brushes). - Unblock the sensor or replace it if faulty. Check the carriage motor brushes.
E12	High limit switch error: it did not close during carriage descent	- Carriage motor blockage - Limit switch faulty or blocked.	- Check the carriage motor (motor brushes). - Unblock the sensor or replace it if faulty.
E13	Low limit switch error: it opened during carriage ascent	- The carriage moves in the opposite direction.	- Invert the rotation direction or the limit switches are inverted.
E14	High limit switch error: it opened during carriage descent	- The carriage moves in the opposite direction.	- Invert the rotation direction or the limit switches are inverted.

E16	Emergency intervention	- Emergency button pressed. - Carriage door open.	- Unblock the button and restore the power circuit. - Close the door and restore the power circuit. If FE or FM carriage, check the bridge on the connector. Check the emergency microswitch.
E20	Non-volatile memory error functions (I2C) #0	- No response from memory.	- Replace the memory I^2C (24LC256).
E21	Non-volatile memory error functions (I2C) #1	- Memory timeout.	- Replace the memory (24LC256).
E22	Non-volatile memory error functions (I2C) #2	- Communication error.	- Replace the memory (24LC256).
E23	Non-volatile memory error functions (I2C) #3	- Communication error.	- Replace the memory (24LC256).
E24	Non-volatile memory error functions (I2C) #4	- Memory occupied.	- Replace the memory (24LC256).
E25	Non-volatile memory error functions (I2C) #5	- Write error.	- Replace the memory (24LC256).
E26	Non-volatile memory error hidden parameters (EE) #1	- Periphery occupied.	- Replace the microcontroller (PIC).
E27	Non-volatile memory error hidden parameters (EE) #2	- Interruption during writing.	- Replace the microcontroller (PIC).
E28	Non-volatile memory error hidden parameters (EE) #3	- Failed check given after writing.	- Replace the microcontroller (PIC).
E29	Non-volatile memory error hidden parameters (EE) #4	- Timeout writing data.	- Replace the microcontroller (PIC).
E50	Error in creasing position sensors	- Both sensors are engaged.	- Check the proper electrical wiring or proper installation and mechanical operation.
E51	Creasing locked during closure	- Creasing blocked on the top sensor.	- Check motor operation. - Check electrical connection - Make sure there are no mechanical obstacles. - Check sensor operation
E52	Creasing block during opening	- Creasing blocked on the bottom sensor.	- Check motor operation. - Check electrical connection - Make sure there are no mechanical obstacles. - Check sensor operation
E53	Top limit switch error: did not engage during ascent command (creasing)	- The carriage blocked during ascent.	- Check motor operation. - Check operation of the top sensor and replace if broken. - Make sure there are no mechanical obstacles.

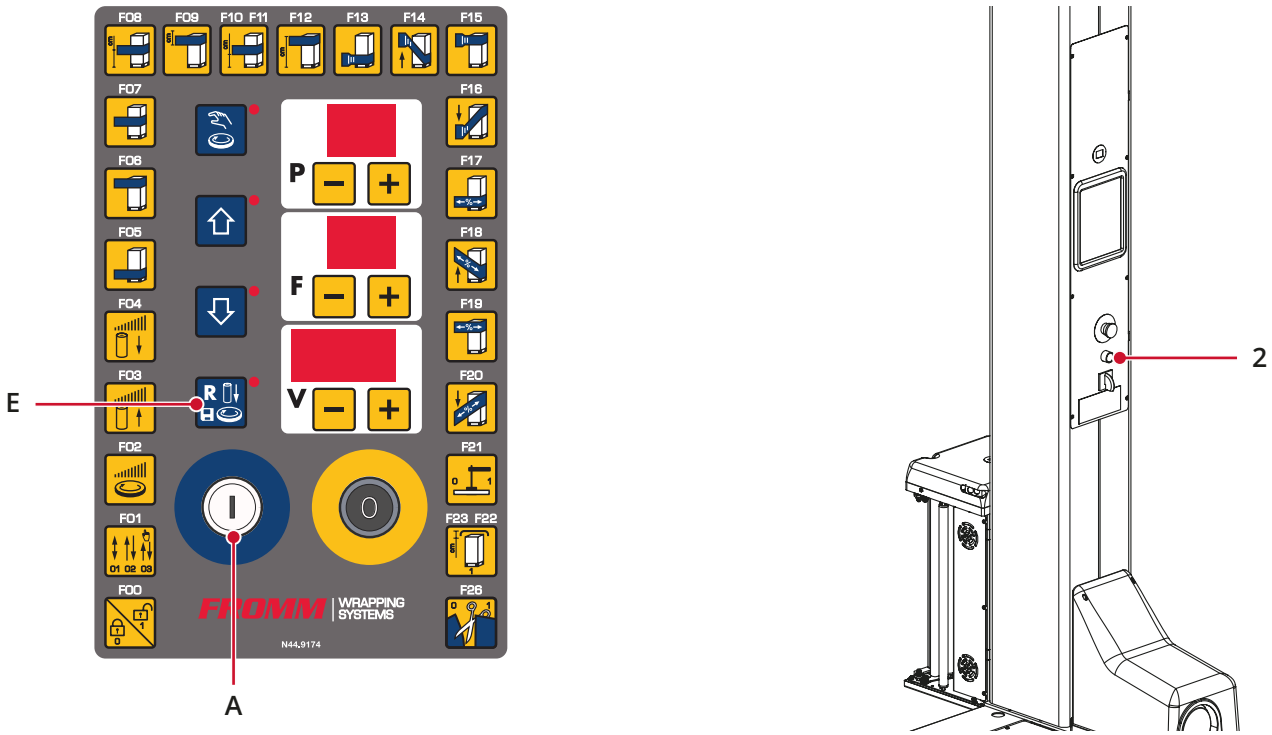
E54	Bottom limit switch error: did not engage during descent command (creasing)	- The carriage blocked during descent.	- Check motor operation. - Check operation of the bottom sensor and replace if broken. - Make sure there are no mechanical obstacles.
E62	Presser carriage descending but the presser plate is out of position, cannot detect pallet (tables)	- Presser plate blocked.	- Manually rotate the presser plate. The presser plate cam must pass <2 mm from the sensor. Check the correct operation of the sensor, bringing a metallic object near it. If the LED lights up, check the cable, if the sensor does not signal anything, replace it.
E64	Presser carriage encountered the film carriage first, but not the pallet (Tables)	- The pallet is too low.	- To wrap, exclude the presser.
E90	The entry photocell engaged during transport of a pallet on the rotating roller unit (tables)	- Pallet out of position.	- Reposition the pallet and check the photocell operation.
E91	Attempt to start the platform while a photocell on the entry and exit of the rotating roller unit is engaged (Tables)	- Pallet in transit.	- Remove the pallet.
E92	Alarm, rotating roller unit already engaged during loading of a new pallet: the photocells on the roller unit must both be free before loading (Tables)	- Pallet unloading while a new one is loading.	- First unload the pallet in transit, then load the new one.
E93	Alarm detected non standard pallet on the rotating roller unit: the photocells on the roller are both engaged during loading. (Tables)	- The pallet is too long.	- Remove the pallet.
E94	Alarm, platform out of phase during pallet transport into and out of the roller unit (Tables)	- The table was not set in phase.	- Exit automatic mode and turn the table in phase.
E95	Alarm, exit occupied while unloading the pallet from the rotating roller unit. The two photocells on the unloading line are both engaged. (Tables)	- The photocells are engaged.	- Check the status of the photocells.

E96	Alarm, maximum timeout during pallet loading (Tables)	- Timeout loading pallet.	- Check loading of the pallet.
E97	Alarm, maximum timeout during pallet unloading (Tables)	- Timeout unloading pallet.	- Check loading of the pallet.
E99	Alarm maximum timeout during transport of a pallet on the entry roller units (Tables)	- Timeout transporting pallet.	- Check the pallet transport on the roller units.

» See Picture 5 - pag. 20

2.5.1 RESTART AFTER AN ALARM OR AS RESULT OF TORN / FINISHED FILM

- Wait until the machine has stopped and brought the trolley to the reel replacement level (alarm **E09**).
- Solve the problem that triggered the alarm or replace the reel should this be finished, attach the film to the pallet again.
- Press the **BLUE REFRESH** key **(2)**.
- Reset the alarm by pressing the **RESET (E)** key located on the control panel.
- Press the **START (A)** key for 3 seconds.



Picture 5

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