



AIRplus[®] MINI-Cushion

OPERATING MANUAL

Contents AIRplus® MINI-Cushion

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Dear customers,

Thank you for deciding to use the AIRplus® MINI-Cushion machine. For an optimal use, please read and follow the instructions contained within this guide.

General information:

It is forbidden to reproduce, copy, translate or multiply, treat or electronically distribute the device and its apparatus as well as the documentation without previous consent of Storopack.

***** Specified conditions of use *****

The described device is exclusively for the manufacture of packaging material made of plastic film. The user of the device must scrupulously follow all the instructions contained in the present guide book and is entirely responsible for the adjustments and the following of all the other safety measures necessary for the use of the device. All modifications or failures to respect the instruction cancel the warranty conditions and the manufacturer's liability.

Storopack cannot be responsible for damages caused by a wrong usage of the machine as well as its corresponding void air cushions.

Although many precautions have been taken to ensure that no errors are contained in this user's guide, involuntary errors can nevertheless still exist in the text. Storopack cannot be responsible for these errors. Any proposal for modification of this guide can be transmitted to the following phone numbers.



Africa & middle east	+49 7123 1640
Asia-Pacific	+852 3421 2392
Europe	+800 7867 6722
North America	+1 800 827 7225
South America	+55 11 5677 4699

www.storopack.com
info@storopack.com



1 Technical specifications

Product	Pre-formed plastic tubular film of 200 to 400 mm width
Maximum roll diameter	300 mm
Throughput speed	Up to 12 meters per minute
Controls	Main switch, start/stop, menu options button, increase/decrease the sealing temperature, the air charge, the film length and the film transport speed, options and reset button.
Power supply – Europe	230 V, 50 Hz
Power supply - USA	115 V, 60 Hz
Recommended mains fuse	3.15 A
Power consumption (max.)	84 W
Power consumption (uninterrupted service)	65 W
Power consumption (Stand-by)	3 W
Sound pressure level	75 dB
Dimensions (LxWxH)	675x355x370 mm
Weight	10,5 kg

2 Basic information

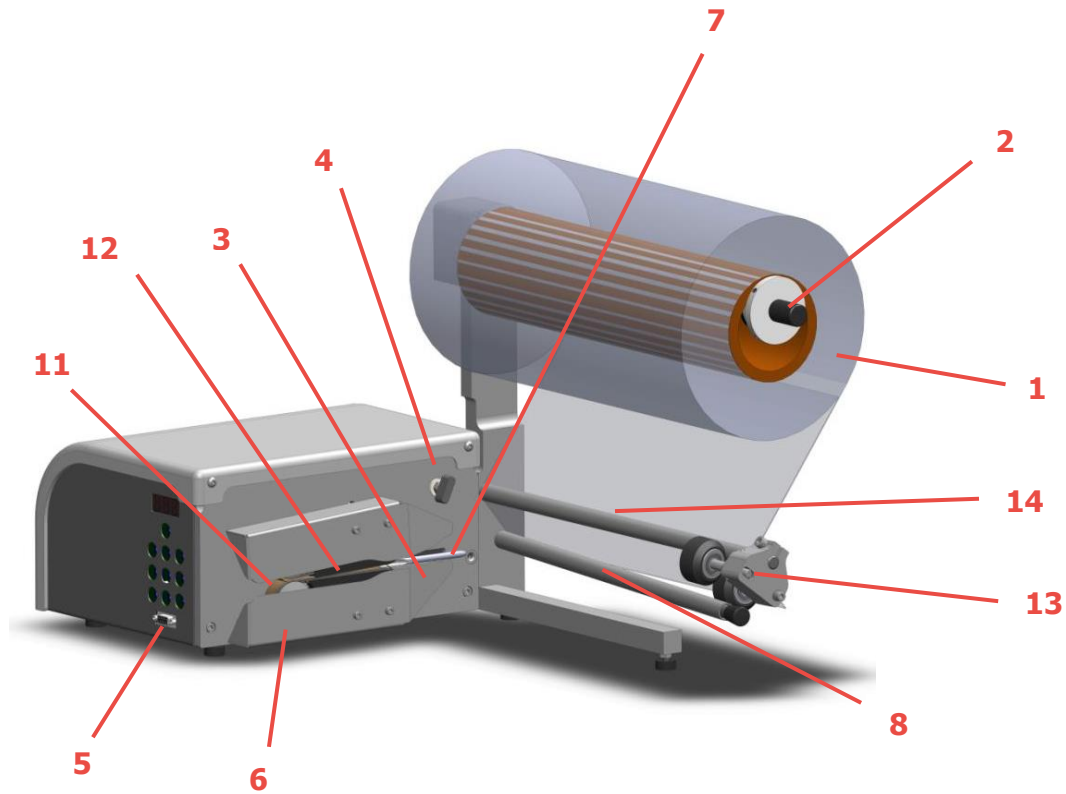
This manual has been compiled by Storopack with all due care to enable safe and fault-free production with the AIRplus® MINI-Cushion. Operating staff should first familiarise themselves with the contents of this manual before starting to work with the AIRplus® MINI-Cushion. We would like to stress that all the necessary safety measures, as described in this manual, must be carried out by the user and must be maintained in order to ensure personal safety. When the AIRplus® MINI-Cushion is running, operating staff must ensure that nobody can be injured by the machine due to any unauthorised interventions or otherwise. Maintenance work must only be performed by properly trained staff or by staff specifically assigned such work.

3 Safety instructions

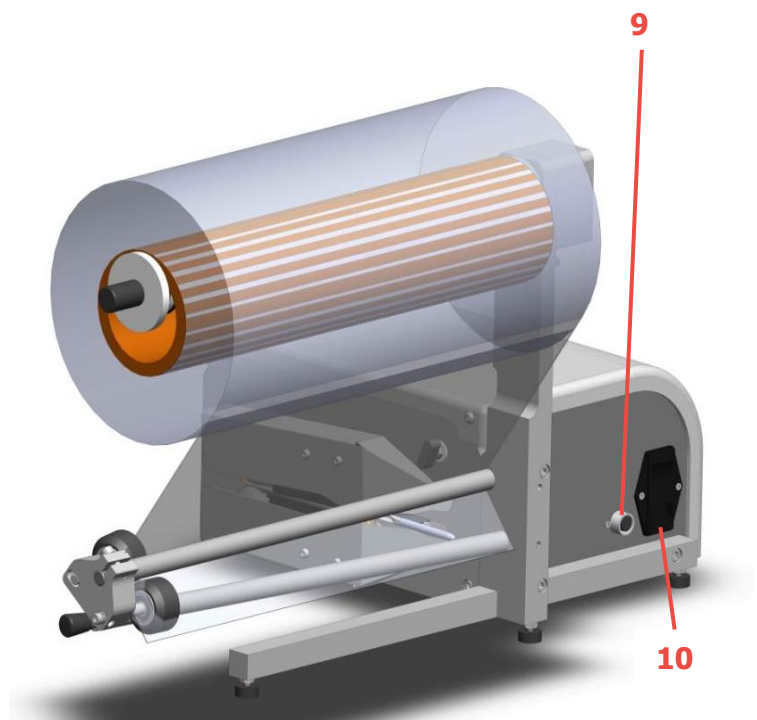
The instructions below must be carefully observed and maintained in order to ensure the personal safety of all users and/or operators.

1. Operating staff must avoid all contact with the electrical system of the machine.
2. Operating staff must never endanger themselves or others.
3. This machine has a heating element which becomes hot during production. Be mindful of this. Do not place any flammable materials on or over the machine and switch the machine off after use by operating the *main switch* **10!**
4. Set the "main switch" to "0" if an emergency situation occurs. This will switch off the machine and interrupt the power supply after a few seconds (when the display has fully extinguished). Once the emergency situation or fault has been remedied, the machine can be switched on again as described in section 6.3.
5. The machine must be switched off at the main switch at the end of the working day or if the machine will not be used for a considerable length of time. Before carrying out any installation or maintenance work, the machine must always be switched off at the main switch and the power lead must be unplugged.
6. All safety and protective measures and facilities must have been applied and be maintained in accordance with IEC instructions (International Electrotechnical Commission).
7. The machine installation and commissioning instructions are provided by Storopack's own staff or staff delegated by Storopack. Storopack's liability under IEC regulations no longer applies if changes or additions are made to the machine without Storopack's permission in writing.
8. Electrical and/or mechanical maintenance activities on the machine must only be performed following Storopack's permission. Such work must be carried out by properly trained specialists who have been specifically assigned to do such work.
9. The machine is handed over by Storopack fully adjusted and tested. Any damage or loss due to a loss of production or machine faults caused by incorrect operation or poor or faulty maintenance is not covered by the guarantee conditions.

4 AIRplus® MINI-Cushion construction

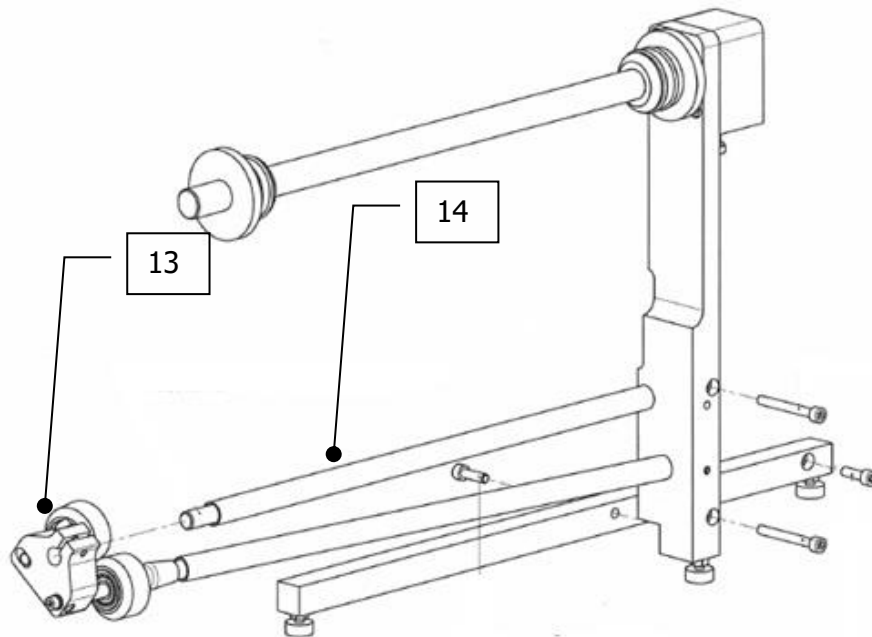


No.	Description
①	Roll of film
②	Roll holder
③	Adjustable sealing unit
④	Adjustable knob for item 3
⑤	Control panel
⑥	Fixed sealing unit
⑦	Air blast unit, cutter
⑧	Film deflector shaft
⑨	Remote control connector
⑩	Main switch
⑪	Drive roller
⑫	Circulating belt
⑬	Guiding wheels
⑭	Film guide shaft



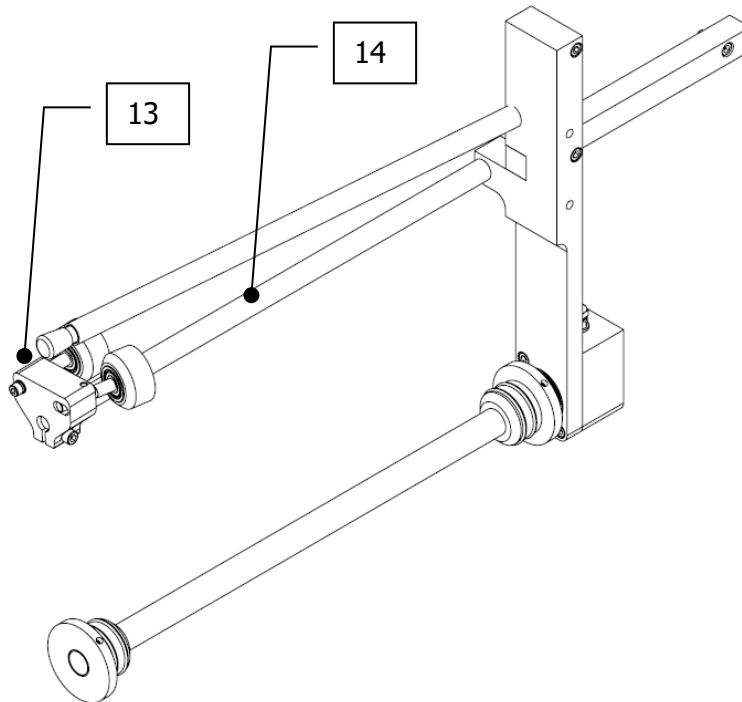
4.1 Mounting instruction support and guide wheels

Place the guiding wheels **13** at the end of the film guide shaft **14** and make sure the assembly is securely fastened and towards the lower film deflector shaft



4.2 Mounting instruction support and guide wheels with shaft downwards

Place the guiding wheels **13** at the end of the film guide shaft **14** and make sure the assembly is securely fastened and towards the upper film deflector shaft.



5 AIRplus® MINI-Cushion working principle

The *roll holder* ② holds a roll of preformed *plastic film* ①. This film is passed around the *film guide shaft* ⑧ and then past the air blast unit with the *guide shaft* ⑦ to the sealing system. The *circulating belts* ⑫ and *drive rollers* ⑪ transport the film. During this transport the *air blast unit with the guide shaft* ⑦ blows air into a pre-formed tubular cushion of the film, which is cut open at its side by the *cutter* ⑦ and is heat-sealed by the *sealing units* (③/⑥). This creates a continuous chain of cushions filled with air. The film has perforations between the air cushions to enable individual or multiple air cushions to be torn from the perforated chain.

The sealing system consists of a fixed *sealing unit* ⑥ at the bottom and an *adjustable sealing unit* ③ at the top. *Circulating belts* ⑫ guide the film between the two sealing units. The film is sealed by the sealing units immediately after the cushion has been filled with air. The *adjusting knob* ④ enables the *upper sealing unit* ③ to be moved up in order to install or remove the film or to replace the *circulating belts* ⑫. The operation of the *control panel* ⑤ and the *main switch* ⑩ is described in chapter 6.

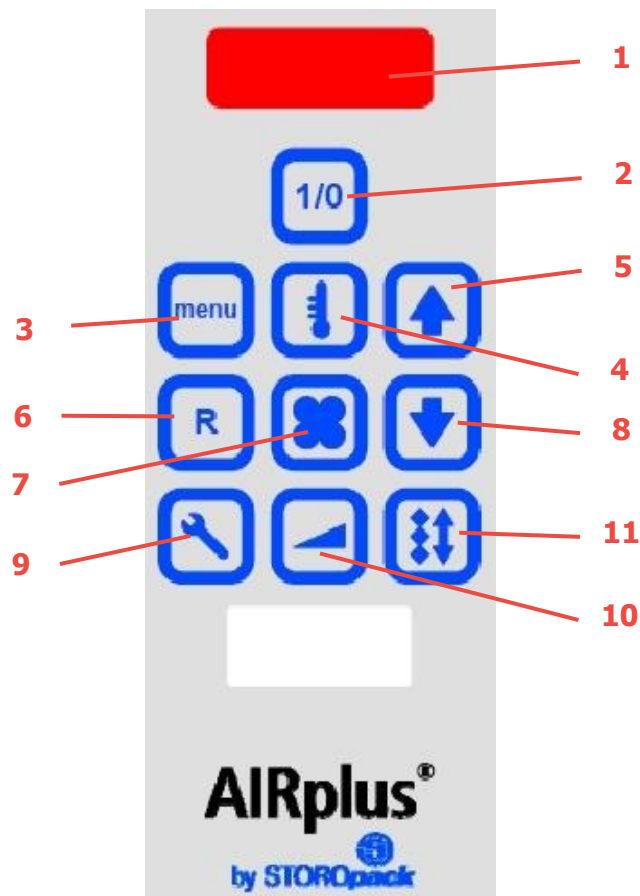
6 AIRplus® MINI-Cushion operation

The AIRplus® MINI-Cushion is operated using a control panel.

The operation of this panel is explained in this chapter.

In addition, this chapter explains how to start the AIRplus® MINI-Cushion, how to fit a new roll of film and how to switch off the AIRplus® MINI-Cushion.

6.1 Control panel



No.	Name	Function
①	Display	4-digit display
②	Start/Stop	To start or stop the machine
③	Menu	To display the menu options
④	Temperature	To set the sealing temperature
⑤	Up	To increase the value on the display
⑥	Reset	To reset the machine after an error message
⑦	Air blast unit	To set the air volume
⑧	Down	To decrease the value on the display
⑨	Options	To select the options
⑩	Speed	To set the transport speed
⑪	Production length	To set the transport length

6.2 Installing a new roll of film

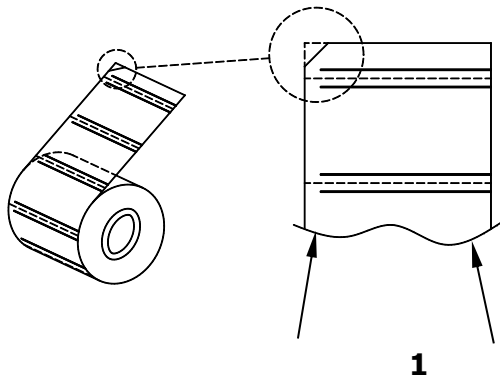


Figure 6.2.1

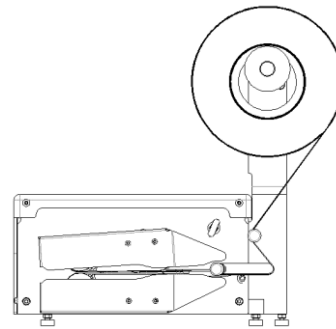
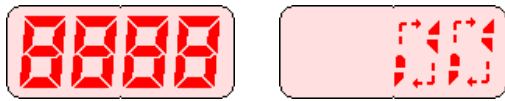


Figure 6.2.2

Make sure that the machine is not running while changing rolls and while manually threading the film into the machine! If there is an empty roll on the machine, remove it from the film roll shaft. The roll of film to be sealed has continuous *cross perforations* ①, see figure 6.2.1, and a non-continuous *cross-seal* (2x) on both sides of these perforations. This *cross-seal* ② ends just before one side edge of the film, creating an opening between the side edge of the film and the end of the cross-seal, enabling the film to be slid over the shaft of the *air blast unit* ⑦. Install a new roll of film making sure that this opening faces the machine. The roll is placed on the *film roll holder* ② and then wrapped around as shown in figure 6.2.2. Cut a little corner off the film end on the side of the opening. Slide the opening of the film over the shaft of the *air blast unit* ⑦. Then turn *knob* ④ to tilt the *upper sealing unit* ③ and slide the film between the sealing units as far as possible until some resistance can clearly be felt. Then turn *knob* ④ back to lock the *upper sealing unit* ③ into place again. Always make sure that this is locked properly to ensure a good seal quality!

6.3 Starting the machine

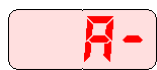


Press the main switch ⑩ to put it into position "1" to activate the machine. See section 6.2 if there is no roll of film in place or if the film has not been threaded into the machine properly. Note: always stop the machine before replacing rolls and threading the film into the machine. Then press the *start/stop* ② button to start the machine. The machine will gradually start running after some seconds (you can slightly pull on the film to pull it through the sealing units to facilitate the machine start).

The machine will stop automatically when the roll of film is empty and message 'E3' will display.



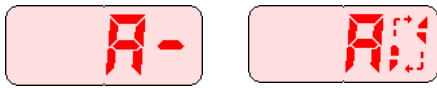
The left-hand side of the display ① shows an "H" to indicate that the machine is in manual mode. The right-hand side of the display ① shows a "-" which starts to "rotate" when the machine is starting up.



If the left-hand side of the display shows an "A", the machine is either in auto mode and a remote control is connected or the start/stop function can be operated by means of optical contacts.

See chapter 6.4 for instructions on how to operate the machine using a remote control.

6.4 Remote control



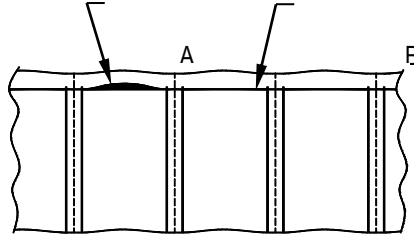
A remote control can be connected to the AIRplus® MINI-Cushion. This can be a foot pedal, an external switch or a signal generator (such as a photocell).

The remote control in question must be connected to the connector 9 next to the main switch 10.

When the machine is switched on using the main switch, an "A" will appear in the left-hand section of the display 1 instead of an "H". An exception to this is when a signal generator is connected. The display will then show an "A" at the moment when the signal generator transmits a pulse to the machine; an "H" may be displayed until such time. If a remote control is connected, the machine will be started and stopped by means of this remote control. If a foot pedal or an external switch is connected, the machine operation will be as described in the previous section 6.3, except that the foot pedal or switch must then be pressed instead of the *start/stop* 2 button. When the machine is running, irrespective of whether it is in automatic or manual mode, a line symbol will be "rotating" on the right-hand side of the display. A "-" will show when the machine is stopped. The machine can always be started and stopped manually when it is in automatic production mode. In this event, the "A" in the left-hand part of the display will blink. Press the ▲ button to restore the machine to automatic production mode. The display will then show an "A" again.

6.5 Setting the sealing temperature

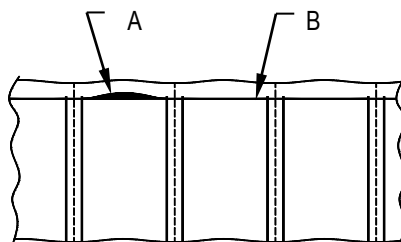
Keys:



A visual inspection of the seal may show that the sealing temperature of the sealing units needs to be adjusted to obtain an optimum seal. The seal at location A (see illustration) is of a poor quality and the seal at location B is of a good quality. A poor quality seal may be due to an excessively high sealing temperature and/or an excessive air volume. The sealing temperature can be adjusted both during production and when the machine is at a standstill. Press the *temperature button* ④ (the light next to the button will light up) to be able to adjust the required temperature upwards (button ⑤) or downwards (button ⑧). The *display* ① now shows a value. This is an indicative value. Now press the arrow keys (⑤ and ⑧) to increase or decrease this value and to adjust the sealing temperature upwards or downwards respectively. If no arrow keys are pressed in the next 5 seconds (approx.), the display will return to its normal status ("H" or "A"). Always check the seal quality after changing the sealing temperature.

6.6 Setting the air volume

Keys:



A visual inspection of the seal may show that the air volume needs to be adjusted to obtain an optimum seal. The seal at location A (see illustration) is of a poor quality and the seal at location B is of a good quality. A poor quality seal may be due to an excessively high sealing temperature and/or an excessive air volume. The air volume can be set as required. It can be adjusted both during production and when the machine is at a standstill. Press the *air volume button* ⑦ to be able to adjust the required air volume upwards (button ⑤) or downwards (button ⑧). The *display* ① now shows a value. This is an indicative value. Now

press the *arrow keys* (5) and (8) to increase or decrease this value and to adjust the air volume upwards or downwards respectively. If no arrow keys are pressed in the next 5 seconds (approx.), the display will return to its normal status ("H" or "A"). Always check the seal quality after changing the air volume.

6.7 Menu option selection


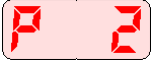


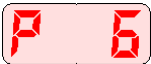
Keys:   

The AIRplus® MINI-Cushion can be operated by means of a number of pre-programmed menus or menus you can program yourself. Every menu can contain different parameters for the different kinds of plastic film.





The parameters of every menu have been pre-defined and laid down in the AIRplus® MINI-Cushion programmer.

Press *menu button* (3) to open the menu. Press the *arrow keys* (5) and (8) to select the relevant menu number and to select and find a specific menu option.


6.7.1 for double sealing


Menu	Film type	Machine	Items used
	Cushion 16p / 12p	MC - DS	- long film shaft - air injector "G" - guide wheels
	Bubble 29b	MC - DS	- long film shaft - air injector "G" - guide wheels
	4-pocket film	MC - DS	- long film shaft - air injector "G" - guide wheels - vibration suppression wheels
	Wrap 140d	MC - DS	- long film shaft - air injector "G" - guide wheels
	Wrap 28d	MC - DS	- long film shaft - air injector "G" - guide wheels

for AIRplus® MINI-Cushion XW




	Cushion 28p	MC - XW	- air injector "G" - XW cradle
	Bubble 53b	MC - XW	- air injector "G" - XW cradle - extended 300mm guide roll
	Wrap 259d	MC - XW	- air injector "G" - XW cradle
	Wrap 56d	MC - XW	- air injector "G" - XW cradle




6.8 Resetting

Keys: 

After an error message [E3], the AIRplus® MINI-Cushion can be restarted by pressing the *reset button* . The machine is operational again after the reset button has been pressed. The error message [E3] is displayed if no more film web is detected. This may be because the roll is empty and needs replacing or because the film web has broken.




6.9 Setting the film length

Keys:   


The AIRplus® MINI-Cushion enables the film length to be set using the *film length button* . You can use the *arrow keys* ( and ) to either increase or decrease the length value.

6.10 Setting the film transport speed

Keys:   

The film transport speed of the AIRplus® MINI-Cushion can be changed. This speed can be adjusted while the machine is running or when it is at a standstill. Press the *film transport speed button*  to change the film transport speed. You can use the *up arrow key*  to increase the speed and the *down arrow key*  to decrease the speed. Please remember that you should also adjust the sealing temperature and the air volume if you adjust the speed.

6.11 Options

Keys: 

This option is intended for use by qualified staff only.

7 Replacing the cutter



Figure 7.1



Figure 7.2

The cutter must be replaced when it fails to cut the film or when the film sticks to the cutter.

Proceed as follows:

- Turn the machine off
- Switch off the main power supply
- Remove the protective cover from the machine and place it somewhere safe
- Take the magnet in the corner of the machine housing (figure 7.1)
- Move the adjustable sealing unit **3** upwards using the adjustor knob **4**
- Place the magnet on the cutter according to figure 7.2 and tilt it slightly so that you can remove the cutter
- **Attention! risk of injury**
- Install a new cutter by using the magnet. Place the magnet back in the machine housing. Make sure the cutter is seated correctly
- Reinstall the machine cover on the machine housing
- Switch on the main power supply and turn the machine on

8 EC-Declaration of Conformity



We hereby declare that the following machinery complies with the essential health and safety requirements of the machinery directive 2006/42/EEC and 93/68/EEC.

Machine description Machine to produce air filled bags of packing materials

Machine type AIRplus® MINI-C^{HP} packing machine

Manufactured by **Storopack Nederland B.V.**
Ittervoort – The Netherlands 6014 CE

This machinery has been designed and manufactured in accordance with the following transposed harmonised European Standards.

EN ISO 12100:2010, Safety machinery - Basic concepts, general principles for design.

EN ISO 13857:2019, Safety of machinery - safety distances to prevent danger zones being reached by the upper limbs.

NEN-EN-IEC 60204-1:2018, Safety of machinery - Electrical equipment of machines - Specifications for general requirements.

A technical construction file for this machine is retained at the following address:

Storopack Nederland B.V. Amerikastraat 1, 6014 CE Ittervoort-The Netherlands.

Signed:

Date: 01-02-2023

A handwritten signature in blue ink, appearing to read 'O. Peters', with a long horizontal stroke underneath.

Name: O. Peters

Position: Managing Director

Being the responsible person appointed by the manufacturer or nominated representative of the manufacturer established in the EC, and employed by

Storopack Nederland B.V. Ittervoort – The Netherlands 6014 CE



Storopack Deutschland GmbH + Co. KG
Untere Rietstraße 30
D-72555 Metzingen

Africa & middle east	+49 7123 1640
Asia-Pacific	+852 3421 2392
Europe	+800 7867 6722
North America	+1 800 827 7225
South America	+55 11 5677 4699

www.storopack.com
info@storopack.com

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