Contents

1   General guidelines

The purpose of these instructions is to explain to the user how to use the GS 47 sealer safely and correctly.

Anyone whose work involves using the sealer must be familiar with these instructions and the safety regulations.

These instructions must always be available to personnel, to prevent incorrect use of the sealer and to ensure trouble-free operation.

Copyright

These instructions may only be given to third parties with the written consent of GETINGE. All documents are protected by copyright.

The passing-on and copying of documents, including extracts and the communication or use for gain of their contents is not permitted, except by express consent. Infringements are punishable and will lead to claims for damages. We reserve all rights to exercise the provisions of commercial copyright law.

Warranty and liability

We accept liability within the terms of the stated warranty obligations for errors and omissions, to the exclusion of further claims.

We reserve the right to make technical changes to the sealer covered by this instruction manual, for the purpose of further development.

We accept no liability for damage and operational disturbances arising from incorrect operation, failure to observe these instructions, or improper repairs. Only original spare parts and accessories approved by GETINGE may be used.

GETINGE accepts no liability for damage resulting from the use of non-approved spare parts and accessories.

The drawings and graphics are not to scale.

Explanations

Important instructions given in the technical documentation are indicated as follows:

⚠ Warning

☞ Useful information
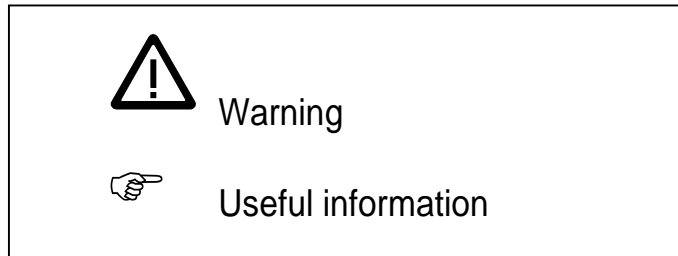
2 Safety regulations

These instructions must be read and strictly complied with.

⚠ **2.1 Before use**

Users must familiarise themselves with the instructions in this manual before using the GS 47 sealer.

⚠ **2.2 Field of application**

The GS 47 sealer is to be used only for sealing sterilisation packages. No liability will be accepted for use of the sealer for any other purpose.

The sealer may only be used for its intended purpose, in accordance with the generally recognised rules of technology and the industrial health and safety regulations. It must not be used if it has defects that might be dangerous to employees or third parties.

⚠ **2.3 Danger of electric shock**

Before the case is opened, the sealer must be disconnected from the electric power supply. To open the case, unscrew the four <u>unmarked</u> internal hexagon screws with a 4 mm key.

Only an authorised technician or a specialist dealer may undertake servicing work on the sealer.

⚠ **2.4   Damage to the sealer**

– If the packaging material becomes trapped, it **must not** be pulled out of the sealer. This would damage the sealer.

– The sealer is not suitable for sealing PE bags. The sealer may be damaged if an unsuitable material is used.

– The reverse button must not used to feed packaging material into the sealer from the left (see Section 5.13 , page 19).

⚠ **2.5   Contamination of the sterile goods**

"Danger of patient infection"

– If the pressure of the pressure rollers is incorrectly set, the seam will not be bacteria-tight (see Section 5.11, page 15).

– The user must set the correct sealing temperature for each packaging material and sealer. This is done by trial sealing operations.
The usual sealing temperatures are between 120 °C and 200 °C. Our recommendation is to set the sealing temperature to 120 °C and to raise it gradually until a bacteria-tight seam is obtained.

– If the temperature is too low, the seam will be incomplete or weak.

– If the temperature is too high, the package will be difficult to peel open. Paper fibres may be released and contaminate the sterile goods.

– Released paper fibres may result in patient infection.

⚠ **2.6   Hot surface (GS 47 1D/ 1DK/ 2D/ 2DK)**

- When the printer has been running for some time, the print head will be hot. Avoid touching the print head when changing the ink ribbon. Seal seam (see Section 5.12.2 page 18).

3   Installation

Set up the GS 47 sealer on a clean, smooth surface as follows:

– Position the sealer as required.

– Leave at least 15 cm free space behind the sealer to ensure good cooling and trouble-free operation.

- Plug the mains cable into the socket on the back of the sealer.

- Check that the voltage and frequency of the supply agree with the voltage and frequency shown on the sealer.

- Plug the mains lead into the power socket.

- Install the feed plate.

- To adjust the distance to the seam, slacken the knurled nut on the feed plate. Move the feed plate to the required position and tighten the knurled nut.
  With the feed plate fully forward, the seam is about 15 mm away from the cut-off edge of the material; with the feed plate fully back it is about 35 mm away from it.

- The GS 47 sealer has is now installed.

► Note that the printers can only print if the print seam distance is large enough.

Feeder table (accessory)

GETINGE recommend the use of a feeder table for convenient feeding and trouble-free transport of the material.

- Remove the feed plate and install the feeder table.

- To set the seam width, slacken the knurled nut on the underside to release the feed stop. Move the feed stop to the required position and tighten the knurled nut.
  With the feed stop fully forward, the seam is about 15 mm away from the cut-off edge of the material; with the feed plate fully back it is about 35 mm away from it.

4 Overview of controls
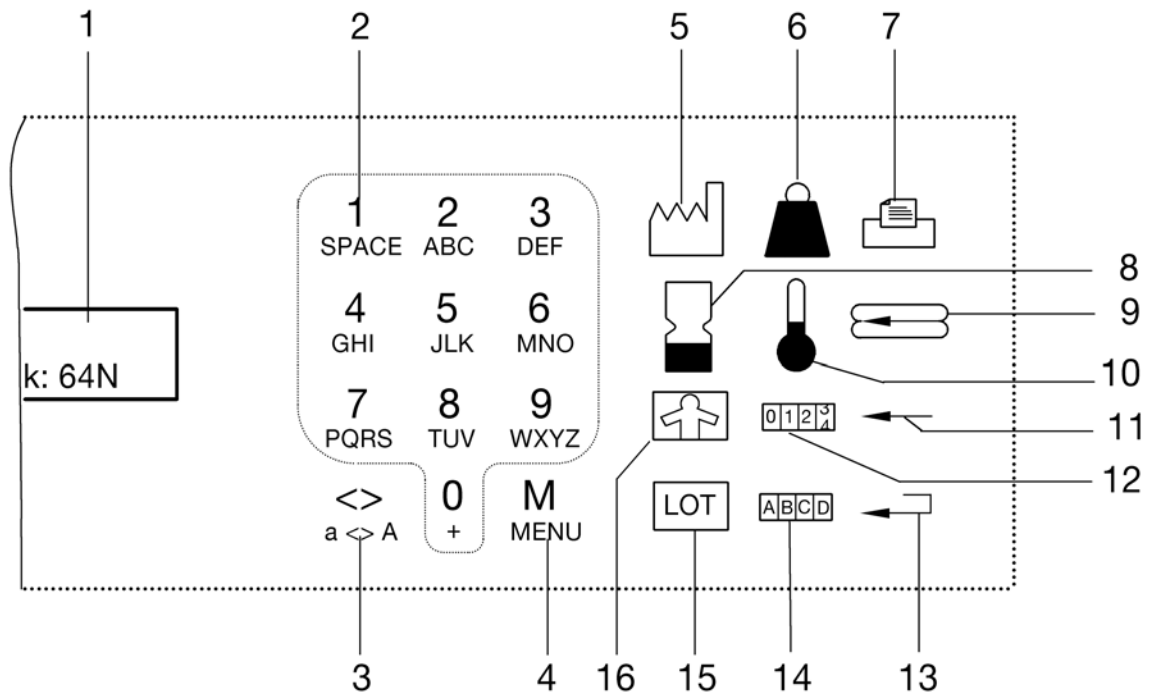
1 Display

2 Alphanumeric keypad 0-9 or A-Z

3 Print width setting

4 Menu

5 Date of manufacture

6 Force measurement

7 Printer setting

8 Expiry date

9 Reverse button for sealing material

10 Temperature setting

11 Delete key in:

– input mode

Select key for:

– menu language

– expiry date week, month, year

– Select temperature

12 Counter reading

13 Return key (confirm)

14 Text selection and input up to 100 texts

15 Batch code

16 Personal ID code

5   Operating instructions

The GS 47 sealer seals all sterilisation packages that are normally commercially available. The sealer is not suitable for sealing PE bags.

⚠ Damage to the sealer

See Section 2.4, page 5, item 2.

☞ Important

► 	The return key must be pressed after every function key or data entry, as confirmation. In the instructions below, the return key is represented by this symbol: ↵.

► 	After every complete entry in the chosen mode (text entry, text selection, temperature entry by user or process data), the sealer is ready to seal although the chosen menu is still displayed. "Ready to seal" only appears on the display when the material to be seal is fed in.

5.1   Switching on the sealer

Set the green switch on the back of the sealer to (**I**).

The following information appears on the display:

Heating up **Temp: 20°C Press: 65 N**	— The sealer heats up to the programmed temperature in about 30 seconds.

When the sealing temperature has been reached, the following information appears on the display:

Ready to seal **Temp: 180°C Press: 65 N**	– The sealer is ready to seal. — Subsequent settings can now be done.

5.2 Delete key

◄— – **In input mode** the delete key:
   is used to delete characters one by one.

– **In select mode** the delete key is used:
in **"Menu"** mode to change the language.
in **"Expiry date"** mode to change week, month and year.
in **"Temperature"** mode to select the temperature.

5.3 Return key

◄╗ – Every entry must be confirmed with the return key.

5.4 Enter date of manufacture

The date of manufacture is entered only once, when the sealer is used for the first time.

⌂⌐ – Press the button.

Time:	**14:00**
Date:	**03-18-00**

– The display looks like this.
– ↵ to confirm.

– Enter the password (the factory default password is 1234).
Time and date can be set.

– The set values appear blinking on the display in sequence .
The sealer is in input mode.

– The alphanumeric keypad is used for data input.

– Hour ↵ (confirm), minutes ↵ (confirm).
Day ↵ (confirm), month ↵ (confirm), year ↵ (confirm).

– Input mode is ended and the sealer is ready to seal.

☞ **Important**

► If you make a mistake, you can delete single characters with the ◄— delete key. This can only be done if the input has not been confirmed. If the input has been confirmed, the procedure must be repeated.

5.5   Enter expiry date

You can enter any numerical value (period) from 0 to 99.

The display shows the previously set expiry date, eg days, weeks, month or year.

    –   Press the key.

Period:	10 Days
Expire:	03-20-00

–   The display looks like this.

–   ↵ to confirm.

–   The display value (period) that can be set blinks.
     The sealer is in input mode.

–   The alphanumeric keypad is used for data input.

–   Enter a new period and press ↵ to confirm.

–   ◄── Press the delete key and enter the calculation period, eg days, weeks, month or year, the press ↵ to confirm.

–   Input mode is ended and the sealer is ready to seal.

Example calculation:

Date: 03.20.00 numerical value of 10 (period: day, weeks, etc.).

Month	**Day**	**Year**

Days	03-30-00	
Weeks	05-29-00	
Month exact	01-20-01	exact date
1st of month	01-01-01	rounded to the first of the month
16th of month	01-16-01	rounded to the sixteenth of the month
Year exact	03-20-10	exact date
Year M/1	03-01-10	rounded to the first of the month
Year M/16	03-16-10	rounded to the sixteenth of the month

5.6 Enter personal ID code

You can enter up to 14 characters on the alphanumeric keypad. The input procedure is as described in Section 5.8 Text entry, page 11.

 – Press the key.

Pers. nr.:

– The display looks like this.
– ↵ to confirm.

– The display value that can be set blinks.
The sealer is in input mode.

– Enter personal ID code and press ↵ to confirm.

– Input mode is ended and the sealer is ready to seal.

5.7 Enter production code

You can enter up to 14 characters on the alphanumeric keypad. The input procedure is as described in Section 5.8 Text input, page 11.

LOT – Press the key.

Lot nr:	K6987P

– The display looks like this.
– ↵ to confirm.

– The display value that can be set blinks.
The sealer is in input mode.

– Enter a new production code and press ↵ to confirm.

– Input mode is ended and the sealer is ready to seal.

5.8 Text entry

You can enter up to 100 texts each of 24 characters.

To enter text:

ABCD – Press the key.

Text-choice: 0

– The display looks like this.
– ↵ to confirm.

– The text number blinks on the display.

The sealer is in input mode.

– Using the alphanumeric keypad, choose the desired text number from 0 to 99, then press ↵ to confirm.

– The text stored under that number (if any) is displayed.

– To enter a new text, or to overtype the existing text, press the ↵ key again.

– If you have previously entered a password or chosen text 0, you can enter the new text with the keypad.

– For example, if you want to enter a lower-case **"c"**, press the **"2"** key. By using the "<>" key you can select uppercase and lowercase letters, uppercase and lowercase special characters and the relevant numeral. Choose the desired character from the active group of characters.
The following sequence of characters appears:

Uppercase letters:	**ABC**
Lowercase letters:	**abc**
Uppercase special characters:	**Ä ÅÆÇ**
Lowercase special characters:	**äåàæç**
Numeral:	**2**

– When entry is complete, press ↵ to confirm.

– Input mode is ended and the sealer can continue sealing.

Important

► If you press the key too many times, keep pressing it until the desired character appears.

► If you want to enter two letters from the same key, eg **"A"** and **"B"** immediately after each other, wait for a second, so you do not overtype the first letter entered.

► If you make a mistake, use the delete key ← to delete the incorrect character.

► To enter a space, press the **1** (SPACE) key once.

► Text no. 0 can be changed without a password. Texts 1-99 can be password-protected. If this is done, the texts can be selected but not edited.

5.8.1 Text selection for the print menu

| A | B | C | D | – Press the key.

| Text-choice: 0 |

– The display looks like this.

– ↵ to confirm.

– The text number that can be set blinks on the display.
  The sealer is in input mode.

– Use the alphanumeric keypad to enter the desired text number (0 to 99) and press ↵ to confirm.

– The text is displayed.
  To print the selected text, see Section 5.12, page 16.

– When text selection is complete, press ↵ to confirm.

– Input mode is ended and the sealer is ready to seal.

5.8.2 Text entry with a computer

To enter texts with the computer, connect the sealer PC socket to the serial port of your computer with the cable supplied. Switch on the sealer and the computer. Install the software with the diskette supplied and follow the attached instructions.

5.9   Enter counter reading

If you want to do a certain number of sealing operations, the sealer can be set up as follows.
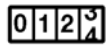
| 0 1 2 | –   Press the key.

| Counts: 0x | –   The display looks like this.
| Maximum: 0 | –   ↵ to confirm.

–   The current setting disappears from the display.
     The sealer is in input mode.

–   The counter can be set to any value (eg 0). Press ↵ to confirm.

–   The desired maximum reading (eg 100) can be set. Press ↵ to confirm.

–   The setting is saved and the sealer is ready to seal.

☞ Important

► Taking the above setting as an example, when you have sealed 100 bags, the sealer reports **"Counter maximum"** and accepts no more material when the conveyor belt stops.

► If a sealing operation fails, you can reverse the counter reading by 1.

► If you do not want a maximum function, set the maximum value to 0. This disables the function.

5.10   Set the sealing temperature

You can enter the sealing temperature in two ways.

1.   Select temperature freely

   This is the procedure for setting the target temperature:

   –   Press the key.

| Seal temp: 150°C | –   The display looks like this.
| Set temp: 150°C ±5°C |

–   ↵ to confirm.

–   If necessary, enter the password (the factory default password is 1234).

–   The current setting disappears from the display.
     The sealer is in input mode.

–   The alphanumeric keypad is used to enter the target temperature.

–   Now enter the desired target temperature for the material you are using and press ↵ to confirm.

–   Input mode is ended and the sealer is ready to seal.

–   The sealer now cools down or heats up.

1.   **Selecting a preset temperature**

–   Press the key.

Seal temp:	150°C
Set temp:	150°C ± 5°C

–   The display looks like this.

–   You can choose between four stored temperatures by pressing the delete key ← . Then press ↵ to confirm.

–   Input mode is ended and the sealer is ready to seal.

–   The sealer now cools down or heats up.

☞ **Important**

►   To store the temperatures, see Section 6.4, page 21.

►   If the set temperature does not correspond to the target temperature, transport does not start. If this happens, wait until the correct temperature is reached.

⚠ **Contamination of the sterilised goods "Danger of patient infection"**

See Section 2.5, page 5, item 2.

5.11 Pressure measurement

Pressure measurement is optional. If pressure measurement is not used, this key does nothing.

  – Press the key.

| Pressure: 65 N |
| Set press.: 65 N ÷ 9N |

– The display looks like this.

Pressure measurement is set at the factory to 60 N. There is usually no need to change this setting.

The pressure setting may only be changed by service personnel.

5.12 Printer setting (GS 47 1D/ 1DK/ 2D/ 2DK)

The sealer is equipped with one printer (single-line) or two printers (two-line).

The sealer can print different data at the same time during the sealing process:

This is how to set the print information:

  – Press the key.

| Print: |
| Select > |

– The display looks like this.

– ↵ to confirm.

– The sealer is in input mode.

The following data are activated by pressing the individual symbols:

  – Date of manufacture (= Fab)

  – Date of expiry (= Exp)

  – Personal ID number (= Pnr)

  – Batch number (= Lot)

  – Text selection (= Txt)

– To delete a symbol, press it again.

– With one printer, all the data are printed on one line.
With two printers, the batch number and the text are printed on the
second line. This reduces the line length.

– ↵ to confirm.

– After confirmation, the character width and line length appear
automatically on the display.

Symbol width:	**1.6mm**
Print-length:	**68mm**

– The display looks like this.

Three printing widths are programmed at the factory.

– The correct printing width for the packaging material in use can be
selected by pressing the **<>** symbol on the alphanumeric keypad.

☞ **Important**

► The printing width must be matched to the size of the
packaging material. The packaging material must be
slightly wider than the printing width. The line width
is only indicated when at least one printed is
switched on.

► Behind every symbol selected for printing there are
data that were previously entered and confirmed.

► Only the information shown on the display is printed.

► When the packaging material is fed in, the paper
side must be down.

► If the printer is not used for a long time, we
recommend removing the print cassette (see Section
5.12.12, page 18), to prevent the ink drying out.

5.12.1 Printing process data (GS 47 1D/ 1DK/ 2D/ 2DK)

You can use the GS 46 sealer to print out the process data for documentation
purposes.

This is how to print the process data:

🖶 – Press the key twice.

Print Process-report:
03-18-00 / 180°C 65N

– The display looks like this.

–   Insert a piece of packaging material.

–   The sealer prints the following process data:

Date of manufacture

Temperature

(Pressure measurement)

Speed

Total counter reading

on the bag. This can be detached for documentation purposes.
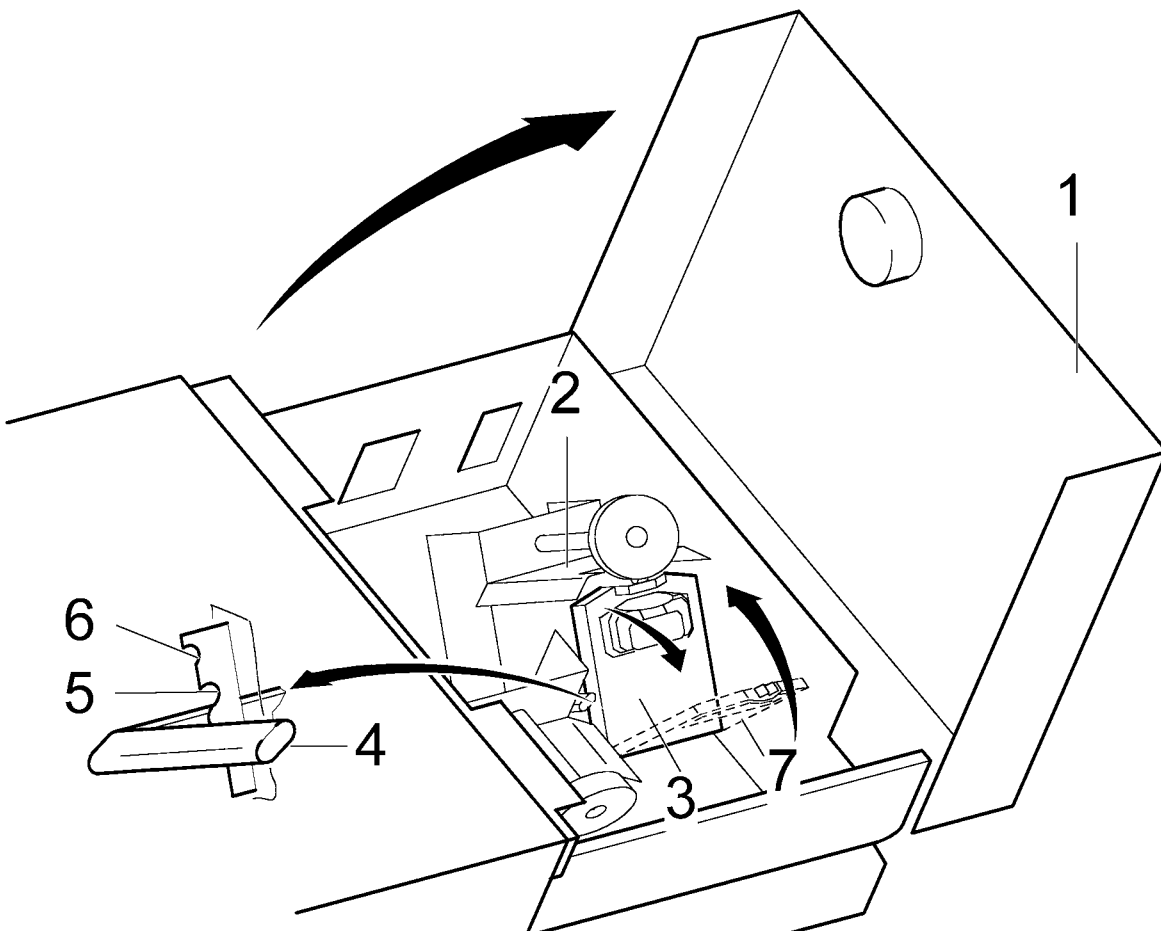When the process data have been printed, sealing can continue.

5.12.2 Changing the printing cassette (GS 47 1D/ 1DK/ 2D/ 2DK)

⚠️ **Hot surface**

See Section 2.6, page 3.

When the print quality deteriorates, the printing cassette must be replaced. A short-term improvement in the print quality can be achieved as follows:

1. **Short-term improvement in print quality**

– Switch off the sealer.

– Open the cover (1).

– Move the blue lever (4) to the midway position (4), or if necessary to the upper position (6).
   The print quality will be improved for a short time.

2. **Changing the printing cassette**

– Switch off the sealer.

– Open the cover (1).

– Move the blue lever (4) to the lowest position.

– Tilt back the printer (2).

– Pull out the printing cassette (3) in the direction of the arrow.

– Insert a new printing cassette (7) at an angle into the carrier on the ink ribbon holder and move the carrier up until it latches into place.

– Leave the blue lever (4) in the lowest position.

– Close cover (1). The GS 47 sealer is ready for use.

5.13   Reverse button

This is what to do if material has become trapped:
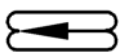
– Press the button.

– The transport mechanism runs in the opposite direction and the material can easily be removed.

⚠ **"Damage to the sealer"**

See Section 2.4, page 5, item 3.

5.14   Label printing

With the label printer, which is available as a accessory, you can create barcode labels. For this, the label printer is connected to the socket marked LABEL on the back of the sealer, on the right, using the cable supplied. Now install the label printer and load the labels and the transfer band, as described in the printer instructions.

The printer can print a label for every bag that passes through, or only on request.

To print a label for each bag, switch on the label printer, as described in Chapter 7.1. If you have more than one sealer with label printers, you can select the label printers with numerals between 1 and 9. The barcode begins with the numeral with which the label printer was switched on.

In order to generate a single label, press the printer symbol three times and then press Enter to confirm that you want an extra label.

This function works with the printer switched on or off. With the printer switched off, the barcode begins with the numeral last used.

6   Setting the default values

These are the default settings of the GS 47 sealer:

–   Date and time to Central European time

–   Date sequence day - month – year

–   User password (1 – 2 – 3 – 4)

–   Service password (4 -7 -1 -1)

–   Standby setting at 50 °C and 5 minutes

This is how to change the default values:

M   –   Press the key on the alphanumeric keypad.

Menu   –   Enter the password (the factory default password is 1234).

1. Password 3. Heating
2. Language 4. Settings

–   The display looks like this.

6.1   Changing the password

The functions for making changes are protected by a password. If text **0** is selected the text can be freely edited.

M   –   Press the key.

Menu   –   Press the **1** key on the alphanumeric keypad.

Password:

–   The display looks like this.

–   ↵ to confirm.

–   The display value that can be set blinks. The sealer is in input mode.

–   The alphanumeric keypad is used for data input.
       You can enter any combination of four digits.

– Enter a new password. If you enter **0**, the password option is disable. Press ↵ to confirm.

– Input mode is ended and the sealer is ready to seal.

6.2 Changing the language

M – Press the key.

Menu – Press the **2** key on the alphanumeric keypad.

Language:	English
Dateing:	mm – dd - yy

– The display looks like this.

– To select one of the stored languages, press the ◄— delete key, then press ↵ to confirm.

– Input mode is ended and the sealer is ready to seal.

6.3 Changing heating standby parameters

The sealer has a standby mode. After a set time of five minutes, for instance, the sealing temperature of the sealer drops automatically. The sealer is in standby mode. Pressing any key returns the temperature to the set sealing temperature.

M – Press the key.

Menu – Press the **3** key on the alphanumeric keypad.

Standby temp:	50°C
Standby timer:	5 min

– The display looks like this.

– ↵ to confirm.

– The set values appear blinking on the display in sequence .
  The sealer is in input mode.

– The alphanumeric keypad is used for data input.

– Enter new standby temperature, press ↵ to confirm. Enter time, press ↵ to confirm.

– Input mode is ended and the sealer is ready to seal.

Important

► To disable the standby function, set the time to 0.

6.4 Changing a preset temperature

To make it easier to set the sealing temperature, four different temperatures can be stored.

This is how to change a preset temperature:

M – Press the key.

Menu – If necessary, enter a password.

– Press the **4** key on the alphanumeric keypad.

Set 1: 120°C Set 2: 150°C **Set 3: 180°C Set 4: 200°C**	– The display looks like this. – ↵ to confirm.

– The first temperature that can be set blinks.
  The sealer is in input mode.

– The alphanumeric keypad is used for data input.

– The temperatures can be changed.
  Set 1 and press ↵ to confirm. Set 2 and press ↵ to confirm. Set 3 ↵ and press ↵ to confirm.
  Set 4 ↵ and press ↵ to confirm.

– Input mode is ended and the sealer is ready to seal.

Important

► As explained in Section 5.10, page 14, the stored temperatures can be selected.

7 Service functions

A technician can use the service functions of the sealer as follows.

7.1 Switching components on and off

This is how to switch a component on or off.

M – Press the key on the keypad.

Menu – Enter the password
  (the factory default password is 4711).

– Press the **5** key on the alphanumeric keypad.

Printer 1: 1 Press 1 **Printer 2: 0 Label 0**	– The display looks like this. – ↵ to confirm.

– The first temperature that can be set blinks.
The sealer is in input mode.

– Switch components on or off one after another (1 = ON / 0= OFF).

– Input mode is ended and the sealer is ready to seal.

7.2 Showing the total counter reading

M   –   Press the key on the keypad.

Menu   –   Enter the password
(the factory default password is 4711).

– Press the **6** key on the alphanumeric keypad.

| Total: 565x |

– The display looks like this.

– The reset function is barred.

– For example, 565 packages have been sealed.

7.3 Testing sensors

M   –   Press the key on the keypad.

Menu   –   Enter the password
(the factory default password is 4711).

– Press the **7** key on the alphanumeric keypad.

| Temp : 180°C Sens1: 0 |
| Sens2: 0 |

– The display looks like this.

The transport sensor (sensor 1) is on the left-hand side of the sealer.

The counter sensor (sensor 2) is on the right-hand side of the sealer.

If the sensors no longer work properly you can order spare parts for the sealer or send the sealer to GETINGE for repair.

8   Technical data

SEALER GS 47	
Max. sealing temperature	200 °C
Transport speed	9.8 m/min
Seal seam dimensions	4 x 2.5 mm approx
Max. power consumption	800 VA
Power supply	230V (115V) / 50Hz (60Hz)
Mains fuse	4 A slow (115V: 8A slow)

SEALER GS 47 1D/ 1DK/ 2D/ 2DK	
Dimensions w x d x h	725 x 280 x 240 mm approx
Weight	21 kg approx
Printing features	Date of manufacture, expiry date alphanumeric personal code and batch code Text Symbols to DIN 980 Sealing parameters Bar code with external printer
Options	Second printer Force measurement

SEALER GS 47 K	
Dimensions w x d x h	570 x 280 x 240 mm approx
Weight	16 kg approx
Printing features with external printer	Date of manufacture, expiry date alphanumeric personal code and batch code Text Bar code

Every GS 47 sealer is set up to produce a seal seam that complies with DIN 58953-7. Every sealer has a certificate of initial validation.

Always send faulty circuit boards back to the manufacturer. They will be processed and disposed of in an environment-friendly way.

※ GETINGE

9   Wear and replacement parts

Fax order to :   _____

Quantity	Description	Ordering no.
	PTFE strip for heating element (70 cm)	4427032
	PTFE strip for transport rails (130cm)	4427030
	Pressure roller, upper, complete	4419016
	Pressure roller, lower	4425723
	Transport belt (one)	4416005
	Toothed belts for pressure roller	4416016
	Ink ribbon	4421001
	Bearing sleeve (Ø10 x Ø12)	4415015
	Ball bearing	4415000

From:

_____

_____

Series no.   _____

Signature: _____   Date: _____

Other parts are available from GETINGE on request.

GS-47-GB-003.doc